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SIGINT HISTORY

OF

THE ALASKAN THEATER

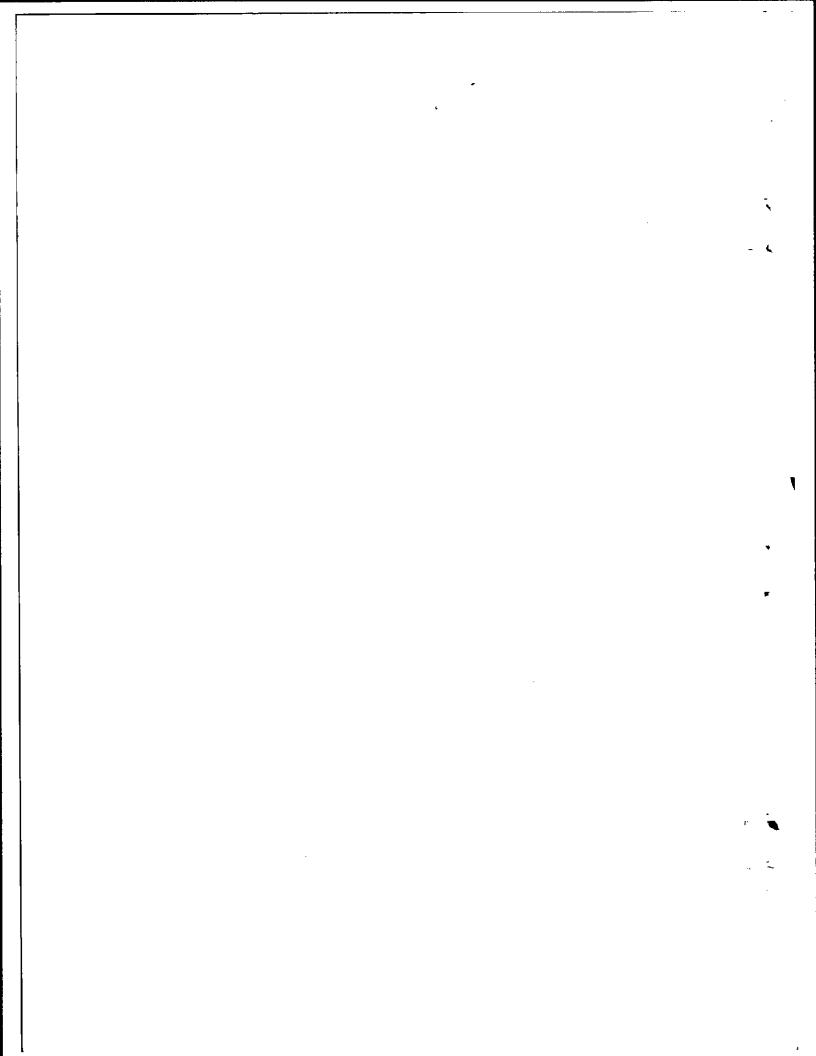
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1 JANUARY 1962

6981ST RADIO GROUP MOBILE, APO 942

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1 January 1962

#### SIGINT HISTORY OF ALASKAN THEATER

This document has been prepared for informational purposes only and deals with the history of the SIGINT effort in the Alaskan Theater. It contains, but is not limited to, development, establishment, installation and operation of SIGINT facilities in this area, as well as site surveys, hearability tests, projects, etc., that have been conducted. Information contained herein was extracted from Group Historical Files, Site Survey Reports, Hqs USAFSS documents, NSA publications, Army Security Agency records, Naval Security Group records, and verbal information received from personnel who personally participated in activities recorded herein.

FOR THE COMMANDER:

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#### SIGINT HISTORY OF ALASKAN THEATER



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#### PART I

#### SECTION I

#### 6981st Radio Group Mobile (3rd Radio Squadron, Mobile)

#### CHAPTER 1 - 1950

The 6981st RGM (3rd RSM) participation in Alaskan Theater SIGINT operations began on 23 November 1949 when the 3rd RSM was reactivated at Brooks AFB, Texas.

The advanced echelon of the 3rd RSM arrived at Elmendorf AFB, Alaska in April 1950. Personnel to man the unit departed Brooks AFB in late May and arrived in Alaska on 1 June. The squadron was led by Major Emil Polivka, Commander, and MSgt DeWayne Spickler, 1st Sergeant.

The area presently occupied by the Territorial Prison Camp was allocated by the Alaskan Air Command for tenancy by the 3rd RSM. Buildings consisted solely of quonsets in a rundown condition. It can be imagined that, as the first contingent of personnel drove up to this area, there was a long pause by all as the situation was given a perfunctory survey. First Sergeant Spickler then started the 3rd RSM on its way with, "Well, here we are, let's get to work!".

The 3rd RSM began operations, with those words, on 2 June 1950. The entire original effort was aimed toward establishing facilities, obtaining equipment, and preparing for adequate logistic support of the 3rd RSM.

The original planning and intent was directed toward establishment of intercept sites at Adak Island (Aleutian Chain), Alaska (in collocation with the Navy establishment at that location), at a temporary airfield designated Davis Air Force Base, and at Nome, Alaska at the then active USAF installation, Marks Air Force Base.

Concurrently with the preparation of facilities and equipment at Elmendorf AFB, construction was in progress at Adak and Nome to establish the intercept operations sites. Training of operations personnel during this pre-operational period was accomplished at the 3rd RSM and by the Navy at Adak.

On 21 August intercept operations were initiated at Adak. This was the initial intercept operation conducted by USAFSS facilities in the Alaskan Theater. This site was designated Detachment Able. (See Section II, Adak)

To support this intercept effort, analytic processing was initiated at the 3rd RSM site in early September. The total force of this analysis unit consisted of one (1) officer and three (3) airmen.

The second detached unit of the 3rd RSM was activated at Marks AFB, Nome, Alaska on 12 November, and was designated Detachment Baker. (See Section III, Nome.)

Additional plans were formulated during this early period of organization to expand operations in the Alaskan Theater by constructing sites at St. Lawrence Island and at King Salmon (Naknek AFB), Alaska. The site at St. Lawrence Island had tentatively been set as Site F-9, N. E. Cape. These installations had been programmed and funds requested for construction in 1951. The target date for completion of both sites was December 1951.



In November, a radiotelephone processing effort composed of one (1) linguist and one (1) analyst was established at the 3rd RSM. This effort was established to perform translation and analysis of radiotelephone and Morse plain text communications intercept at Detachments Able and Baker.

Also in November, a (D)(1) processing operation was established at the 3rd RSM. This activity consisted solely of one (1) NCO. Full scale (D)(1) processing operations were not achieved until January 1951 when Captain Badgett (later killed in an aircraft accident at Summit in August 1951) and five (5) airmen established consumer reporting of processed (D)(1) traffic.

#### CHAPTER 2 - 1951

Effective 1 February 1951, Detachments Able and Baker were redesignated Detachments 31 (Adak) and 32 (Nome), respectively, of the 3rd RSM.

Plans were provided by the USAFSS Engineering Section in February for a permanent Headquarters and Communications/Operations building, to be constructed at Elmendorf AFB, to house the 3rd RSM. These plans were the first step taken in establishment of the 6981st RGM as it stands today. The land on which the 6981st RGM now resides was acquired from the Alaskan Air Command (AAC) during this period.

Also in early 1951, plans were being discussed for operational site installations at Naknek AFB, King Salmon, Alaska, and at St. Lawrence Island, Alaska. Additions to the installation at Adak were also contemplated. Intercept operations at Nome (Marks AFB) were projected for incorporation in the St. Lawrence Island installation as Marks AFB had been under consideration for deactivation, leaving this organization without logistic support at that site. (See Section IV, Naknek and Section V, N. E. Cape.)

During the latter part of 1951, the 3rd RSM continued to grow rapidly in manpower strength, and both operational capability and accomplishment. Final review of plans for the permanent installation at Elmendorf AFB was accomplished with the District Engineers (AAC) in November. Final decision was made to use basic 500 man barracks plans with alterations as required. The contract for construction was let on 18 December 1951, and bids were accepted subsequent to 18 January 1952.

Limited intercept operations were established at the Elmendorf AFB site of the 3rd RSM in late November. This installation consisted of three (3) positions located within the 3rd RSM area. Antennas were constructed after the freeze-up, and positions were manned on a part time basis (5)(1)

This effort was established in an attempt to produce weather intelligence for consumers on a timely basis.

On 19 November, an Intercept Control Section was established at the 3rd RSM. This section assumed responsibility for the newly initiated intercept and direction finding efforts.

Original plans for an installation at N. E. Cape, St. Lawrence Island, had carried a tentative date for completion of construction of 1 December 1951. (See Section V, N. E. Cape.)

The primary obstacle to this optimistic target date was the lack of necessary funds, coupled with funding errors made in the original estimates. In addition, severe weather conditions had hampered even basic planning. Sufficient funds were made available in the spring of 1951 by Hqs USAFSS; however, continued problems relating to adverse weather conditions had forced a delay in estimated completion date to the spring of 1952.

Due to problems arising at Adak (See Section I, Adak) in early 1951 regarding facilities and the possibility of interference, plans for relocating this operation to a different site were formulated. As a result, a site survey team consisting of two (2) officers (one from the 3rd RSM and one from Detachment 31 at Adak) and fourteen (14) airmen from Detachment 31 at Adak proceeded to Shemya AFB, Shemya Island, in the Aleutian Chain during December 1951. The purpose of this survey was to determine the radio reception at that site, as compared to that at Adak, and to survey available real estate and buildings. (See Section VI, Shemya.)

Materials for the construction of an intercept site at Naknek AFB, King Salmon, began to arrive in Alaska in July and August. These materials were transported directly to Naknek. (See Section IV, Naknek.) Target date for completion of the Naknek facility had been set for 15 December 1951, and as this date approached, twenty (20) intercept positions had been installed. Sixteen (16) of these positions were installed for mission coverage and four (4) positions for training of operators. Initial intercept was accomplished during December on a test basis. Although construction had not been fully completed, it was sufficient to allow initiation of operations. The remainder of the construction program was slipped for completion to the spring of 1952.

#### CHAPTER 3 - 1952

In early 1952, the overall analysis function began to grow rapidly as intercept positions at Adak were increased to eighteen (18) manual Morse positions, and additional commitments were levied against the analysis and reporting effort at the 3rd RSM. A cryptanalytic function was also established during this period at the 3rd RSM.

Two horizontal half-wave antennas and one sloping Vee antenna were constructed at a proposed site at Green Lake, Elmendorf AFB in early February, and communications with Detachment 31 (Adak) were established utilizing GRC-26 equipment at the Elmendorf AFB terminal. Satisfactory radioteletype communications were continued through 24 February 1952, and were maintained with approximately eighty (80) percent reliability during the test period. Upon completion of this test, a Sterbe antenna array was constructed in the Squadron area (present Territorial Prison Camp) to continue communications with Detachment 31. This array proved slightly more efficient than the facility tested at Green Lake.

The antenna installation at the 3rd RSM site collapsed during the spring thaw in 1952. As a result, the 3rd RSM intercept effort, still consisting of three (3) positions, was installed in a mobile van and moved to the west of Six Mile Lake.

The Naknek facility was designated Detachment 33, 3rd RSM in early 1952, and an official mission assignment was received on 17 January. (See Section IV, Naknek.) Work continued on the permanent operations building at this site, and planning was initiated to construct new living quarters in the vicinity of the new operations building to both improve living conditions and provide accessibility. Transportation remained a major problem at this site.

In March, two (2) voice positions installed at Detachment 31, Adak, became operational. Operators were trained at Nome and the 3rd RSM. During this same period, further consideration of a site at Shemya was discussed with AAC officials. AAC indicated a favorable attitude toward establishment of a small detachment at that location.

Construction of the site at N. E. Cape, St. Lawrence Island (See Section V, N. E. Cape.) continued to suffer from supply problems and adverse weather conditions. It had been estimated that this site would be easier to support than Nome. This

estimate, plus the availability of real estate and collocation with the 712th ACAW were primary factors in the decision to move from Nome. These factors, of course, were considered only after indications that USAF intended to deactivate Marks AFB at Nome, thereby making Detachment 32 appear as an untenable situation without local logistics.

Radioprinter intercept was originally introduced into the USAFSS Alaskan Theater in August with the establishment of a position at Adak. However, due to interference from Naval communications, this equipment was transferred to Naknek for permanent installation in December 1952.

On 24 September, final inspection and subsequent acceptance of the Naknek operational facility was accomplished. Within one week, the detachment was in full operation in their new quarters. Limited operations had been accomplished since January 1952 because of shortages of equipment and incomplete construction. The completion of construction and equipment installation caught the unit short of personnel, and full scale operations were established operating only ten (10) of the installed positions. (See Section IV, Naknek.)

A Special Security Office (SSO) was established in coexistence with the Alaskan Air Command (AAC) on 12 June to effect closer liaison with that Headquarters. There was some confusion in the early stages of this operation. This was the result of the prior existence of an Army SSO which then served Alaskan Command Headquarters. (The Army SSO was located on Elmendorf AFB.) The conflict arose from indecision as to whether the Army or Air Force SSO should serve the Alaskan Commander. However, it was determined that the availability of an Air Force SSO service, supported by local processing operations (3rd RSM) would be invaluable to all local consumers. Major General Lynn, then Commander USAFSS, contacted the Director of Intelligence, USAF, taking this stand, and offering the AFSSO service to both the Alaskan Air Command and the Alaskan Command.

By 1 November, the Army SSO was making plans to abandon their offices of Elmendorf AFB and move to the new headquarters of the US Army, Alaska, at Fort Richardson. In the process of this move, that office had requested to be relieved of the responsibility of serving the Alaskan Theater Commander. The AFSSO (3rd RSM) was scheduled to assume responsibility of serving the Alaskan Command, as well as the Alaskan Air Command, on 1 January 1953.

Difficulties involved in the transfer of sufficient funds delayed letting the contract for construction of the Headquarters and Comm/Ops building in the Green Lake area, Elmendorf AFB, from 1952 to an estimated date in 1953. Difficulties were incurred in June 1952 in obtaining necessary funds for this proposed building, and contracts could not be let or construction initiated until such funds were made available. Work on the permanent installation was finally initiated on 12 August, when financial problems were resolved. Tentatively, this construction was scheduled for completion in August of 1954; however, it was optimistically believed, that with favorable weather conditions, this time could be reduced.

On 7 August 1952, the possibility of establishing a test intercept site at Green Lake was contemplated. This test would be for Morse and HF voice communications. It was initiated on 18 August and consisted of three (3) positions installed in a mobile van. The test was conducted to determine intercept hearsbility of all USAFSS Alaskan Theater assigned weather targets, with some emphasis on other type targets. By 17 November, a building had been acquired at Green Lake, on a loan basis from AACS, and three (3) antennas had been installed. These included one Class A rhombic and two sloping Vees. Four (4) Morse positions were installed in the building, and two (2) of these began test operations on 19 November. Two (2) automatic Morse positions, with RD-60 recorders. were installed, and these positions began copytraffic. The test on the auto-Morse positions proved unsatisfactory, and these positions were moved to King Salmon, Alaska (Naknek) on 1 December.

During the latter part of 1952, transportation to Nome (Det #32) was creating definite problems. No planes flew direct from Elmendorf to Nome. All flights were routed through Fairbanks, and during the winter months, Fairbanks was often closed with ice fogs, for considerable periods.

Plans to activate the St. Lawrence Island operation, with subsequent closing of the Nome facility, were formulated and targeted for August 1952. Continued problems at N. E. Cape prevented this target date from being met. Final acceptance of the N. E. Cape installation was accomplished on 23 September; however, the move of Detachment 32 (Nome) operations to this site remained contingent upon procurement of adequate communications equipment and the initiation of regular aircraft flights. As a result, operational occupancy was delayed until the summer of 1953 (See Section V, N. E. Cape).

A test was performed at Naknek (Det 33) in October 1952, to determine the suitability of this site for the intercept of electronic (ELINT) intercept. (See Section IV, Naknek.)

On 3 December 1952, Detachments 31, 32, and 33 of the 3rd RSM were redesignated as Detachment #1 (Adak), Detachment #2 (Nome), and Detachment #3 (Naknek) respectively, by General Order.

#### CHAPTER 4 - 1953

of primary interest in the early portion of 1953, was the increase of intercept operations at the Green lake Site to twelve (12) positions. The principle purpose of this effort was an attempt to centralize all (b)(f) intercept in the USAFSS Alaskan Theater at one location which could provide timely forwarding of processed weather to consumers. A secondary consideration was the Adak situation. The Navy at Adak had indicated a desire to reacquire the Detachment 1 area in order to expand hospital facilities. In addition, considerable interference was being experienced from Naval communications, with more expected upon the activation of a new low frequency transmitter in chose proximity to Detachment 1 operations.

By June, the Green Lake operation had become a self-contained unit consisting of two (2) officers, 105 intercept personnel, five (5) security police, and one (1) radio maintenance man. The (b)(1)

Initial permanent installation of radioprinter facilities was accomplished at Naknek in January 1953. (See Section IV, Maknek.) A training assignment was received from DIRNSA on 31 January, and was immediately implemented. There was also a steady increase in manual Morse intercept facilities at Naknek during early 1953, and by spring, there was a total of thirteen (13) operational manual Morse positions. This total was in addition to the five (5) radioprinter positions being operated on a test basis.

The move of Detachment #2 (Nome) to N. E. Cape, then designated Site F-9, was accomplished during the period 25 April to 12 May 1953. Transfer of operational functions was accomplished on 8 May with no loss in intercept and only eight (8) hours of communications outage. (See Section V, N. E. Cape.)

Following the early 1953 buildup of manual Morse intercept operations at Detachment #3, Naknek, the Green Lake intercept site continued to expand its operations. As a result, the requirement for continued manual Morse effort at Detachment #1, Adak, was

steadily decreased as its mission began to be absorbed by the Green Lake operation. By the end of 1953, the Green Lake intercept site had grown to thirty-eight (38) positions while Adak operations had decreased to two (2) HF radiotelephone: and two (2) manual Morse positions. Additionally, the manual Morse intercept effort at Detachment #3, Naknek, was affected by increased operations at Green Lake and this effort also decreased during the latter part of 1953. This unit's decrease was from thirteen (13) positions to four (4) positions. Simultaneously, radioprinter intercept facilities at Naknek were expanded from six (6) positions to a ten (10) position capability with emphasis (D)(4)

Radioprinter intercept productivity at Naknek had achieved an exceptionally high level during this period.

During the spring of 1953, an Alternate Interim Headquarters (AIH) for the 3rd RSM had been established at Wasilla Lake in the Matanuska Valley. Tests were then conducted to determine both deployment and intercept capability at this AIH site.

In 1953, between the 4th and 10th of Juns, the 3rd RSM conducted a mobile survey 140 miles northwest of Whitehorse, Yukon Territory, at the Kluane Lake - Silver Creek campsite area. The purpose of this survey was to determine the feasibility of using this area as an emergency deployment site for the 3rd RSM. Frequencies were surveyed in the HF range for manual Morse communications. Equipment utilized in this test consisted of one (1) BC-799 receiver and one (1) R-274/FRR receiver. Antennas utilized consisted of one (1) 425 foot long wire, one (1) 600 foot sloping Vee and one (1) double doublet. It was concluded that intercept of manual Morse signals in the HF range was entirely feasible in the area and that the site could be considered generally adequate (on a limited basis) for use as an emergency deployment location.

Further mobility testing was accomplished in June 1953, along the Glenn Highway from Anchorage to Tok Junction. Tests were accomplished to determine possible areas of intercept operations along this route and the capability of maintaining communications with the 3rd RSM during actual mobile operations. No indications of results of this mobility test have been retained in records.

The construction of the permanent facility east of Green Lake was progressing rapidly by mid 1953. Hopes were high that the 3rd RSM would be installed in its new quarters by the end of 1953 or early 1954.

The library function of the 3rd RSM Operations was established as a separate unit in early September 1953, and procedures were implemented to align the operation of the library in a manner similar to that utilized at Hqs USAFSS. The Intelligence Reporting Section of Operations became the Reporting Section by virtue of assuming responsibility for all intelligence and technical reporting.

On 8 December, the 6973rd Communications Security Flight (COMSEC) and its subordinate unit, Det #1, 136th Communications Security Flight, were subject to realignment. The 3rd RSM had, up until this time, been delegated administrative responsibility for these units. On this date, the 6973rd CSF was deactivated, and personnel and responsibilities were absorbed by Det #1, 136th CSF. This unit was then redesignated Flight #1, Communications Security Squadron. As a result, the 3rd RSM was relieved of the majority of control and administration and retained only limited administrative responsibilities.

A photographic laboratory was established at the Green Lake operations site in November 1953. The primary purpose of this photo lab was to support the installation of an RFP effort at the intercept operations. The RFP effort was scheduled to become operational in early 1954.

On 1 December 1953, Detachments 1, 2 and 3 were redesignated Flights A (Adak), B (N. E. Cape) and C (Naknek), respectively, of the 3rd RSM.

#### CHAPTER 5 - 1954

A Site Survey was accomplished at Gambell, St. Lawrence Island from 11 January to 19 February 1954. (DIC)

The Army Security Agency, Alaska, commenced a Site Survey of Shemya Island during January 1954. In early February, the 3rd RSM supplemented this effort by sending a survey team to help intercept and identify HF voice communications of air targets (5)(1)

On 16 January, Radio Fingerprint (RFP) equipment (AFSAV-17) was installed in the Green Lake operations and declared available for assignment. The initial RFP mission was received from MSA on 28 January.

Also during January, the final deactivation of Flight A, Adak, took place. Two (2) Manual Morse and one (1) RDF positions were turned over to USE-13 (Adak Naval Communications Supplementary Activity) which had been established in 1943. These positions retained their original assignments and operational control was to remain with the 3rd RSM. Manning and equipment for these positions was to be furnished by the Navy.

Personnel and equipment of Flight A, Adak, were returned to the 3rd RSM for subsequent reassignment and allotment to the remaining operational sites. The real estate at Adak was returned to Naval jurisdiction on 15 March, thus completing the cycle of the original USAFSS Alaskan Theater intercept effort. (See-Section II) which.)

The first winter at the new N. E. Cape site was extremely eventful and served to impart some tedious lessons to participating personnel and future planners. (See Section V. N. E. Cape.)

The choice of a new location in the Aleutian Chain was still pending during the early months of 1954. To add further to available information, two (2) Site Surveys were accomplished. The

first of these surveys took place at Shemya AFB, Shemya Island, Aleutian Islands, Alaska, during the period 11 through 16 February 1954, in conjunction with an Army Security Agency survey already in progress, as previously indicated. The second survey was a Site Survey of Attu Island (Aleutian Chain), Alaska, which was performed between 4 May and 16 June 1954. (See Section VIII, Attu.) This survey was accomplished to determine the feasibility of locating a permanent intercept effort on that island. The survey was directed by Hqs USAFSS, and was prompted by the accelerated buildup and increased communications activity in the area. Further expediency was indicated by the deactivation of the Adak operation, which had left this organization and USAFSS without suitably deployed intercept facilities within the strategic area of desired coverage.

These surveys provided basic required information; however, cost estimates of installation and maintenance of an operational site forestalled an immediate decision. A detached unit at Attu was projected by Hqs USAFSS, but the final decision as to location of this effort was postponed.

The new permanent headquarters and communications/operations building in the Green Lake area was finally completed and the keys turned over to the Commander, 3rd RSM on 12 April 1954. The actual move into the new quarters took place on 14-15 April, after detailed preparation and planning had been accomplished. Intercept operations continued at the detached site at Green Lake pending completion of position installation in the new building.

In addition to the surveys previously recorded during 1954, VHF radiotelephone intercept tests were accomplished from a temporary installation atop the roof of the new 3rd RSM building during the periods 9 through 30 June 1954, and 22 September through 5 October 1954. These tests were conducted to determine the availability of intercept within the VHF spectrum during periods when auroral reflections were predicted. Although these tests were conducted during periods when auroral reflections were in evidence, no conclusive results were obtained.

The second half of calendar year 1954 was both a period of settlement and activity. Temporary type operations, in the USAFSS Alaskan Theater, had for the most part, ceased to exist. All of the 3rd RSM functions, with the exception of intercept operations, had been established in the new building. The intercept operation continued to function at the temporary Green Lake quarters, due to lack of equipment at the new installation, until late October when facilities at the new building were completed.

The move into the new building was accomplished with little loss of intercept, and the collocation with other 3rd RSM facilities was reflected as a considerable asset in the increased effectiveness of the overall operations of the organization.

On 29 July 1954, a flag pole was scrounged, painted and raised by 3rd RSM personnel. The 3rd RSM, by special dispensation of AAC, then flew the only flag on Elmendorf AFB other than that flown at the Base Headquarters.

Subsequent to the move of intercept operations into the new building, this function was subordinated for the first time to the 3rd RSM Operations Officer. Previously this function had operated as a detached unit. As indicated, this action considerably broadened the scope of operational responsibility and increased coordination, timeliness and security. The Radio Direction Finding and Radio Finger Printing operations were removed from the jurisdiction of Intercept Control, and subordinated to the Control Chiefs of each intercept flight on a 24 hour operational basis. Control of the RDF and RFP missions was retained by intercept control.

A Site Survey was accomplished at Kotzebue, Alaska during the period 19 July through 31 August 1954. This survey was performed to ascertain the desireability of locating a permanent intercept site in that area. The mission of the survey was to sample for quality and quantity, intercept of the assigned mission of Flight B, N. E. Cape. (See Section IX, Kotzebue.) It would appear that the multitude of problems encountered during the first winter at N. E. Cape had somewhat dimmed the optimism reflected during the pre-operational period at that site. Logistic support had not lived up to expectations; in fact, support had been practically non-existent.

The final Site Survey during this active year was conducted at Point Barrow, Alaska. This survey began on 1 September 1954; and was originally projected to continue for a 130 day period. The purpose was similar to that of previous surveys during this calendar year, and was simed at determining new possible sites for expansion of intercept coverage of and related areas. This aggressive quest of new optimum intercept sites was a direct result of increased activity (b)(1)

[D](1)

[D](2)

[D](3)

[Ask of sufficiently dispersed 3rd RSM intercept facilities, to effectively cover the desired intercept target area, was of prime concern to both the National Security Agency and intelligence consumers. (See Section X, Point Barrow.)

On 1 November 1954, Flight B (N. B. Cape) and Flight C (Naknek) were once again redesignated Detachments 2 and 3, respectively. Further, Flight I, 36th Communications Security Squadron, had been redesignated Detachment 8, 36th Communications Security Squadron, on this same date, and the analytical function of this detachment was collocated with the 3rd RSM operations. Close coordination between COMINT and COMSEC activities was realized in associating COMSEC reflections of U. S. aircraft with reflections of these same aircraft intercepted from (D)(1) are communications facilities.

Another similar correlation project continued to be emphasized at N. E. Cape (See Section V, N. E. Cape). This project consisted of increased utilization of U. S. Radar plotting from the collocated AC&W site. These plots, received over a one-way EE-8 phone from the 712th AC&W operations, were correlated with projections of aircraft activity being intercepted on voice and Morse facilities.

In October 1954, the Alaskan Air Command (AAC) installed an Indications Center in close proximity, both physical and operational, to the AFSSO of the 3rd RSM. The establishment of this center, as directed by Hq USAF, resulted in a considerably heavier workload being placed on the AFSSO.

An IBM unit was projected for the 3rd RSM during the later months of 1954, and was to be subordinated to the analysis effort. This planned subordination was predicated by the fact that the majority of the projected workload for this machine unit was within the analysis function.

A shortage of intercept operators during the late months of 1954 resulted in dropping coverage on several intercept positions. Coverage on a total of twelve (12) positions was discontinued between August and November.

An RDF Flash Net was initiated in October with the reactivation of the 3rd RSM RDF facility. Flashes were passed through communications channels on the on-line circuits. This method did not prove to be adequate because of excessive communications delays.

Intercept functions at the 3rd RSM and M. E. Cape were further modernized by the installation of audio intercommunications systems during late 1954. These installations provided increased efficiency of intercept operations by enabling supervisory personnel to accomplish closer supervision of intercept personnel and mission coverage.

#### CHAFTER 6 - 1955

During early 1955, the manual Morse effort at Nakmek (Det #3) was curtailed to one (1) position. The assignments previously copied at Nakmek on dropped positions were absorbed by the expanding intercept effort at the 3rd RSM.

During the period 5 February through 6 March, a VHF site survey was accomplished at Gambell, St. Lawrence Island. This (b)(1)

By May 1955, the intercept position alignment of the 3rd RSM and its detached units was as follows:

3rd RSM:

34 manual Morse

1 RDF

1 RFP

N. E. Cape:

6 manual Morse

l automatic Morse

4 radiotelephone

1 ROF

Naknek:

10 radioprinter

1 manual Morse

1 RDF

Ft. Barrows

2 manual Morse

l automatic Morse

The BDF facility at Adak remained under the control of the 3rd RSM but did not participate in the USAFSS Alaskan Theater RDF Flash Net.

On 8 May, the 3rd RSM was redesignated the 6981st Radio Squadron, Mobile in keeping with a worldwide redesignation of all USAFSS organizations not previously designated in the 69xx series. Detachment #2 at N. E. Cape became the 6982nd RSM and Detachment #3 at Naknek became the 6986th RSM. Plans were formulated for the establishment of three (3) additional detachments of the 6981st RSM. Detachment #1 at Elmendorf AFB, Detachment #2 at Attu (Consisting of six (6) intercept positions), and Detachment #3 at Barrow (consisting of six (6) intercept positions).

Equipment and personnel for the IBM installation at the 6981st RSM arrived in early June 1955.

In May 1955, one (1) officer and five (5) airmen from the 6981st RSM were sent TDY to the Army Security Agency site (USM-7) at Wildwood Station, Kenai, Alaska. The purpose of this TDY was to determine the extent and content of the ASA effort at that site, and to coordinate with that effort for possible lateral support. The trip resulted in the following findings:

- a. Coverage by USM-7, was good but little analysis was being performed due to shortage of analysts, and operators had limited knowledge of (b)(t) coverage.
- b. Four (4) HF radiotelephone positions were installed but only one was operational. Little comparison of intercept results could be made because of the large number of cases assigned. However, the 6981st RSM was placed on distribution for the USM-7 Voice Tacsum.
- c. Seventeen (17) radioprinter positions were operational. These included eight (8) ITPB, three (3) 2B, and six (6) ICR positions. Very little printer analysis was being accomplished and practically all traffic was forwarded direct to NSA. Comparison of results indicated that USM-7 had far greater intercept potential than our Nakmak operation. However, quality of intercept was by far better at Nakmak due to the technical analysis support being provided that effort; whereas, technical analysis was almost non-existent at USM-7.

The temporary duty status of personnel performing duty at Pt. Barrow interim site was changed to PCS status on 10 January 1955. The operation at Barrow, which had been originally planned to continue to 10 January 1955, had been extended to 10 July, and was at this time further extended to 1 September 1955 in order that a complete year of intercept could be obtained for evaluation. This evaluation was to be performed by the National Security Agency prior to decision as to the installation of a permanent site. Permission was requested of Hqs USAFSS to remain in Barrow after the 1 September 1955 cutoff date on a semi-permanent basis. The Barrow intercept operations had, since its inception, produced excellent coverage of (D)(1)

(See

Section X, Pt. Barrow.)

During the early part of 1955, a worldwide project was implemented through coordination between USAF and USAFSS to establish sophisticated type intercept efforts in strategic positions for intercept of ELINT and RADINT signals. This project was designated "WILD WAVES". The application of this project in the USAFSS Alaskan Theater was to determine a site in Alaska that could obtain maximum intercept results.

At the same time this project was established, USAFSS and the 6981st RSM were preparing for an intensified survey of the Gambell, St. Lawrence Island area. This later project, codenamed "SALT CEDAR", was established to determine the availability and hearability of COMINT/ELINT/RADINT signals at Gambell.

As projects "WILD WAVES" and "SALT CEDAR" were of similar intent, the testing under both these projects at the Gambell site was planned to be simultaneously conducted.

To further insure the success of the survey, an additional preliminary survey was conducted at Gambell by two (2) officers and a technical engineer in late May. The Alaskan Air Command agreed to furnish a radar set, personnel to install and maintain the set, and radar operator training for intercept operators from this squadron, who were to participate in projects "SALT CEDAR" and "WILD WAVES". Eight (8) airmen from the 6981st RSM were placed on TDY to Fire Island on 28 May, for radar training to last approximately two (2) weeks. Hqs USAFSS made arrangements to airlift VHF and ELINT equipment to Elmendorf AFB. An officer and five (5) airmen arrived from the 6982nd RSM, N. E. Cape, to form the ELINT intercept team, and by late June, all arrangements were completed for deployment to the Gambell site. On 29 June, all equipment and most of the personnel were loaded aboard an IST and departed. The remaining personnel and equipment were scheduled to depart for Gambell by air on 1 July. (See Section VII, Gambell.)

"WILD WAVES" tests were completed at Gambell, N. E. Cape, Pt. Barrow, and Naknek by 4 August. The Naknek installation had been chosen for the permanent establishment of an ELINT/RADINT effort, and a site designator (C-2) was assigned. Plans, including equipment, personnel, support, etc., continued for this operation throughout 1955. The Naknek installation of ELINT/RADINT intercept effort was to be the initial site established for this type operation.

During the summer of 1955, the 6982nd RSM (N. E. Cape) and 6986th RSM (Naknek) once more reverted to Detachment status. N. E. Cape became Detachment #1, and Naknek Detachment #2, of the

6981st RSM. Pt. Barrow was designated as Detachment #3; however, this was a temporary designation pending continuation of operations at this site on a permanent basis. This decision was delayed until the National Security Agency completed an evaluation of the first year's (1 September 1954 - 1 September 1955) intercept at that site. NSA had previously recommended that Pt. Barrow continue as a site survey operation for another year. The 6981st RSM Commander, in turn, recommended that permanent status or a complete shutdown of the operation be planned. Upon completion of the evaluation on 22 November, NSA immediately recommended that a permanent installation be constructed at Pt. Barrow. Hqs USAFSS followed the recommendation by requesting USAF approval of a ten (10) position permanent installation at Barrow, and that it be activated by 1 July 1956. (See Section X, Pt. Barrow.)

#### CHAPTER 7 - 1956

In January 1956, the 6981st RSM achieved group status and became the 6981st Radio Group Mobile. Also during January, the 6985th Communications Security Flight, formerly Detachment 8, 136th Communications Security Squadron, became a part of the 6981st Radio Group Mobile. The previous designation (6985th CSF) was deactivated.

In view of speculation that the intercept facility at Nakmek (Det #2) might be deactivated in the near future, a radioprinter test was conducted at the 6981st RGM during the month of June. This test indicated that radioprinter signals could be copied in most cases as adequately at the 6981st RGM as at Nakmek.

Naknek, however, remained in operation throughout 1956. In fact, there was some expansion of intercept facilities in the early part of 1956, with two (2) additional manual Morse positions placed in operation to intercept Morse parallels of intercepted radioprinter links.

During January, AAC acquired cost estimates of proposed construction at both the contemplated Shemya and Attu sites. As a result of discussions, recommendations were forwarded to USAF that Shemya be utilized, in lieu of Attu, for intercept of activity taking place (DM)

At the time, the 6926th RSM had a detachment (Det 9) located at Shemva (D)(1)

During February 1956, USAFSS was notified that AAC had formulated plans with Northwest Airlines to support a permanent detachment of the 6981st RGM at Shemya. Project (DIC) was discontinued on 1 March, and plans were established to phase in intercept operations at Shemya. (See Section VI, Shemya.)

A VHF intercept test was accomplished at Pt. Barrow during the spring of 1956. (See Section X, Barrow.)

In late December 1955, AAC had been directed by the Joint Chiefs of Staff to support a permanent unit at Barrow effective 1 July 1956. On 13 January 1956, USAFSS notified the 6981st RGM that plans and records at USAF indicated sufficient information had been provided A A C to allow for programming and establishment of support of the Barrow unit as a permanent installation beyond 1 July 1956.

AAC informed USAF on 18 January that they were preparing a revised financial plan for the purpose of obtaining sufficient funds to establish and initially support the permanent detachment at Pt. Barrow. AAC further informed USAF that support requirements would be programmed and future financial plans adjusted accordingly. At this point, it appeared that AAC had reluctantly concurred in the support of the proposed Barrow installation despite the previously strong objections voiced by General Acheson. It was apparent, however, that the Alaskan Air Command was not convinced of the justification for such an operation at Barrow. (See Section X, Pt. Barrow.)

On 23 June, USAFSS notified this organization that authorization for manpower spaces at Barrow had been allocated as of 1 August.

Due to the continued operations of the Western Electric Company at Barrow, the original target date of 1 July for permanent operations had been slipped to 1 October 1956. AAC further stated that this date was highly tentative and that they were checking with the DRW Line project officer to determine accurate phase out (of Western Electric) data. Also, 6981st RGM operations at Barrow had not been included in Mona Lisa resupply programming.

on 25 June 1956, the 6981st Commander, in a routine check with AAC, suddenly became aware that fiscal year 1957 funding for our proposed Pt. Barrow, and already established Shemya operations, had not been provided by AAC. The Alaskan Air Command had made an interpretation of the new USAF Manual 172-1 which resulted in their erroneous determination that tenant units would be responsible for funding their own support of all "tangible or feasible" items. AAC had further determined that this included most of the services that would be required by proposed Detachments 3 and 4. As a result, AAC cancelled all programming for funding of these operations in April 1956 and failed to notify the 6981st RGM of such action. When queried, AAC stated that they assumed USAFSS was responsible for such notification. Hq USAFSS was then notified of the problem and cost estimates of Dets 3 and 4 for fiscal year 1957 were forwarded.

USAFSS notified AAC by return message that they were aware of a requirement, under AFM 172-1, for USAFSS funding for minor construction and modification; however, they did not agree that AAC was relieved of the responsibility for normal logistical support as previously tasked by the Joint Chiefs of Staff. As a result, AAC made arrangements with the subcontractors at Barrow, and Northwest Airlines at Shemya, for continued support of 6981st. RGM operations at those sites through 30 September 1956.

Construction assumed by AAC and further delegated to the 11th AD in December 1955 for the Barrow site had not been initiated as the target date for completion (1 July 1956) passed. On 12 July 1956, the 11th AD notified AAC that the required construction was beyond their capability, and that a contract would have to be let to a civilian concern. It was further indicated that the letting of such a contract would increase the original cost estimate of 13,000 dollars to a figure between 55 and 60 thousand dollars. The 6981st RGM was informed of this development by AAC on 13 August 1956, and at the same time, AAC recommended that the 6981st RGM arrange with USAFSS for the necessary funds and coordinate with the 11th AD.

The 6981st RGM forwarded a message to AAC on 14 August 1956 stating that relocation of the Barrow site must be accomplished prior to initial operations of the DEW line radar site because of expected interference in the present location. In addition, it was pointed out that construction should be completed by 1 October 1956. Concern was expressed that no progress had been made on the project up to that date. In addition, the AAC Director of Intelligence expressed concern through AFSSO channels that if no action was completed at Barrow, intercept from that site would be lost on approximately 1 December 1956 when the DEW Line site went into operation.

The required funds for relocation of the Barrow operations were made available on 14 September. However, no action had been taken by the 11th AD by 1 December to accomplish the required construction. AAC had provided two 75 KW generators for detached operations, and 6981st RGM personnel proceeded to Pt. Barrow to set up vans on the tundra approximately one (1) mile from the main camp and DEW Line operations. This action insured continued operations of the Barrow site; but placed the operation in a most temporary status. The vans had to be removed from the tundra prior to the spring thaw to keep them from sinking into the muck. (See Section X, Barrow.)

Project "SALE CEDAR" at Gambell resulted in plans to establish a detachment (Det #5) at that site by 1 October 1956. This date was slipped due to various problems and was now scheduled

to be completed in the first quarter of fiscal year 1958. The continued VHF mission (continuation of SALT CEDAR), which had been accomplished by N. E. Cape personnel collocated with the ASA detachment at Gambell, was turned over to ASA. (See Section VII, Gambell.)

During the month of August 1956, project WILD WAVES was placed under the operational control of Detachment #2, Maknek. The tasking under this project remained similar to that of the original test. First priority was the intercept and analysis of Loran type signals, and second priority was the constant search and surveillance of the frequency spectrum between 1 and 500 kilocycles.

Late in December, the 6981st RGM forwarded information to Hqs USAFSS concerning a proposed ASA, VHF, test at Shemya AFB. Plans called for this test to be initiated on or about 1 February 1957. ASAAL had requested the use of three (3) VHF receivers and two (2) antenna kits for a period of approximately thirty (30) days. The 6981st RGM requested authorization to provide this equipment to ASAAL in order that VHF intercept testing could be accomplished at Shemya.

Although scheduled for deactivation in fiscal year 1958, Detachment 2 at Naknek became the official Alternate Interim Headquarters for the 6981st RGM during 1956 in lieu of the previous Wasilla Lake site.

#### **CHAPTER 8 - 1957**

The Army Security Agency (ASA) conducted the VHF site survey indicated in Chapter 7 of this section, at Shemya during the period 10 March to 9 April 1957. The test was accomplished utilizing the sophisticated intercept equipment (COMINT/ELINT/RADIET) which had been used by the 6981st RGM during Project SALF CEDAR. (See Section VI, Shemya.)

During early 1957, a recreational area was alloted to the 6981st RGM at the Six Mile Lake area. In addition, an athletic field was constructed in the area adjacent to the 6981st Hqs building.

Also, during early 1957, an initial attempt to supplement Alaskan theater intercept with Airborne Communications Reconnaises sames:Platform (ACRP) intercept was accomplished. This project was titled "PISTOL SHOOT" and consisted of twelve (12) flights (DII)

Mission results were not impressive, and further exploratory flights were not recommended until such time as higher performance aircraft, capable of deeper penetrations; were available. RB-50 aircraft from Tokota AFB, Japan were utilized with personnel from the ACRP unit at that base.

On 12 February, the 6981st RGM received approval for the installation of three (3) prefabricated huts at Barrow to be utilized in lieu of the vans then being used for operations at that site. The vans had remained on the tundra; and sinking had been prevented by constant jacking and blocking of the wheels and stands. Arrangements had been made with the Air Materiel Command, which employed the construction company then operating at Pt. Barrow, to include Detachment #4 construction in their current operations. The 60,000 dollars in available funds were turned over to this command. However, in the spring of 1957, economy measures had begun to affect USAFSS Alaskan theater operations, and discussions were underway to consolidate intercept efforts. This consolidation discussion resulted in plans to incorporate Detachment #4 operations with those being carried out at Detachment #1, N. E. Cape, during the early part of 1958. As a result of this planning, the 60,000 dollars allocated for Detachment #4 construction was withdrawn from AMC by USAFSS. These funds were held for further surveys to determine the optimum location for the proposed consolidation of intercept effort. (See Section X, Pt. Barrow.)

To accomplish the desired surveys for the determination of the most desirable locations for consolidated intercept efforts, Project "MODEL HOME" was initiated on 3 July 1957. The Concept of Operations for Project MODEL HOME were subsequently forwarded to USAFSS. Several locations were tentatively considered for possible sites. Preliminary surveys were accomplished at Cape Lisburne, Tin City, and Nome by a C&E officer, a (0)(1) Rep, and an Intercept NCO. Results of these preliminary surveys were as follows:

Cape Lisburne: This survey revealed only one site with sufficient area and grade to accommodate an antenna field. This area was to the east of the main camp, along the Arctic Ocean. The average vertical angle to the tops of the mountains from a point near the shore was seven (7) degrees. This was considered excessive for intercept purposes. (See Section XI, Cape Lisburne.)

Tin City: Two (2) sites large enough to support an antenna field were noted at Tin City. The first, on the west side of the mountain near the village of Wales, appeared to be better from a geographical viewpoint. The second, on the east side of the mountain near the AC&W site, was less desirable geographically because of the location of Tin Mountain due west of this location (elevation 2300 feet) blocking nearly 50 degrees of the most desirable azimuth. However, the latter location was chosen for the actual survey predicated on the availability of logistic support from the permanent AC&W site. (See Section XII, Tin City.)

Nome: An area in the low hills northeast of Nome appeared adequate for antenna installation. Signal strength tests taken from the runway area proved slightly weaker than those taken at the Tin City site. (See Section III, Nome.)

The result of the preliminary surveys indicated that Tim City would be the site of the actual survey, with Nome as alternate location. As further consideration of the Tin City site took place, problems arose in selecting a site with sufficient firm ground to support an antenna field. As a result, consideration of N. E. Cape as a "consolidation" site was initiated. Resulting plans from the N. E. Cape study were forwarded to USAFSS and approved. USAFSS requested more specific details of the planned consolidation, and these were forwarded on 27 August 1957. The entire trend of events during this calendar year reflects the extreme pressures being placed upon planning by the desire to economize.

On 15 October, a test was performed at N. B. Cape to determine the hearability of the Detachment #4 (Pt. Barrow) mission at that location. Results were satisfactory, and plans were formulated to accomplish the integration of Dets 1 and 4 at N. E. Cape in early 1958.

Detachment #2, Naknek, was deactivated as of August 1957. This completed the cycle on the second phase of USAFSS Alaskan theater operations. (See Section IV, Maknek.)

Detachment #3, Shemya, continued to expand its operations during 1957 to a total of nine (9) operating positions which included four (4) manual Morse, three (3) HF radiotelephones, and one (1) HF/VHF radiotelephone intercept positions. In addition, an RDF position was installed to replace the one that was lost with the deactivation of Nakpak.

The total operational positions within the USAFSS Alaskan theater at the close of 1957 had increased to seventy-five (75) intercept positions, and four (4) support positions. The support positions included three (3) RDF and one (1) RFP.

Pt. Barrow continued operations with a total of five (5) positions: two (2) IF/HF manual Morse, two (2) HF manual Morse, and one (1) IF/MF automatic Morse positions. However, final plans were being made at the close of 1957 to deactivate Pt. Barrow with the move of all operations to N. E. Cape. (See Section I, Pt. Barrow.)

# CHAPTER 9 - 1958

The initial phase of the move from Pt. Barrow to M. E. Cape was begun on 26 February 1958. The final deactivation of Pt. Barrow was completed on 19 May 1958. (See Section V, M. E. Cape and Section I, Pt. Barrow.) The departure from Pt. Barrow was viewed with considerable reluctance by the processing analysts at the 6981st RGM. The Pt. Barrow site had produced the ultimate in readable traffic (DIC) Many of the nets and broadcasts were beamed into the Arctic directly in line with Pt. Barrow and intercept had been outstanding. Many believed that the deactivation of Pt. Barrow had been a sacrificial lamb on the altar of economy.

During June, five (5) ELINT intercept positions were installed at Shemya (Det #3) under 6981st RCM control. These positions were proposed to intercept electromagnetic signals (DIO)

A new antenna field consisting of eleven (11) class A rhombics, three (3) Vees, three (3) doublets, two (2) verticals, and one (1) beverage, was constructed at the 6981st RGM in early 1958. This installation considerably improved intercept capabilities.

On 25 February, the Alaska Communications System link between N. E. Cape and the 6981st RGM was permanently converted to White Alice operations.

A meeting to discuss general joint operations between the Army and Air Force at the Shemya site was held by Maj. General Blake, Commander USAFSS, on 3 August. Collocation of Detachment #3, 6981st RGM and the 281st ASA Company (on Shemya) in the concrete block operations building at that site was accomplished on 2 September with no loss in coverage. It was determined that the facility command would alternate semi-annually between the USAFSS and ASA commanders. A Joint Operational designator was acquired on 29 October, and the operations at Shemya were officially designated "Joint Operations Group, Shemya (AAF/JOG)". Projects were established to eliminate duplication of effort between the two services. (See Section VI, Shemya.)

For the first time since the move into the permanent facilities at Elmendorf AFB, the 6981st RCM began to experience overcrowded conditions. Expansion had been rather rapid and continuous, and plans were established for rehabilitation of available space to better house the current effort. Planning of a RADINT collection facility to be installed at Shemya was initiated early in 1958. The intent of this installation was to obtain trajectory information on Soviet Intercontinental Ballistic Missiles (ICBM's) being fired from the Tyura Tam Missile Test Range (TTMTR) to the impact area on the Kamchatka Peninsula. Shemya was selected as the most adequate site due to its position in the normal ballistic curve flight path. Initial target date for operation was set at 15 March 1958; however, actual operations were not initiated until 1 July when the FPS-17 began tests. (See Section VI, Shemya.)

By the close of 1958, the 6981st RGM with its detached operations at N. E. Cape and Shemya had expanded operations to a total of ninety-one (91) COMINT, five (5) ELINT, and ten (10) TRANSEC positions. In addition, three (3) RDF and one (1) RFP positions remained in operation. To this overall total of 110 operational positions, the FPS-17 installation had added a RADINT intercept capability, thereby rounding out the overall intercept posture of the USAFSS Alaskan Theater.

Excessive delays in preparation and forwarding perishable intelligence reports was recognized as a problem area in early 1958. As a result, analytical personnel were placed on flight duty in the intercept area. Results of this action reflected a sixty-seven (67) per cent increase in timeliness. During this same period, problems began to arise regarding the continued assumption of second echelon type tasking without benefit of equivalent additional manning.

With the deactivation of the Naknek operations, consideration had to be given to the choice of an adequate Alternate Interim Headquarters site. Arrangements were made with ASA to utilize space at the recently deactivated ASA intercept site at Wildwood Station, Kenai. Plans were drawn up to establish this site as Alternate Interim Headquarters for the 6981st RGM and its detached units in lieu of the Naknek site.

During July 1958, an AFSAV/D-48 intercept position was installed and became operational at the 5981st RGM. As a result, a considerable portion of the HF automatic Morse intercept mission at N. E. Cape was assumed by this station. Also during July, intercept indicated that facsimile equipment was being utilized bid.

were held as to the possibility of establishing facsimile intercept at USA 34. A recommendation for such action was forwarded to USAFSS; however, no formal action was taken at that level.

# CHAFTER 10 - 1959

Control of the ELINT effort at Shemya was transferred to the Army Security Agency on 25 January 1959. Joint operational procedures for this effort were passed via joint directive of AFSS/Ft Meade and CUSASA. During the period 19 February through 31 March 1959, a hearability test was conducted to determine the capability of this Eqs in covering HF automatic Merse polar cases which were assigned at H. E. Cape. Completion of this test resulted in confirmation that intercept could be accomplished at the 6981st (USA-34), thus avoiding continuing transcribing problems at H. E. Cape. A change of assignment was recommended, and polar cases operating on automatic Morse facilities were subsequently reassigned to USA-34 positions. This development allowed Detachment #1 to place more emphasis on IF automatic Morse targets for development purposes.

In early 1959, a firm agreement was achieved between BIRMSA and CHMRC for the direct exchange of technical material between the 6981st RGM and CHMRC (DII)

would allow for direct exchange of any and/or all technical information pertinent to the vast majority of the 6981st RCM mission. Due to an overlap in mission and function, this agreement, when implemented, could prove extremely advantageous to all concerned.

On 23 June, a team of four (4) airmen and one (1) civilian tech representative was sent to N. E. Cape to install a CV-3 VHF antenna. Installation was accomplished by the team and 712th ACSW on a hardstand in the tundra. Upon placing this antenna in operation, on 19 July, it was found that a gain of four to six decibals was realized in comparison to other VHF antennas in use.

The FPS-17 RADIST operation at Shemya was tasked in July to obtain sightings of ICHM's in flight from the Tyura Tam range, sightings of Earth Satellite Vehicles (ESV's), and sightings of other space vehicles (friendly and/or foreign). Control of the RADIST operation at Shemya was tentatively turned over to the USAFSS.

An additional IF automatic Morse intercept test was conducted at USA-34 during the period 16-31 August. When compared with intercept of the same cases during the same periods at M. E. Cape, it was concluded that further improvements of antenna systems would have to be accomplished prior to assumption of IF intercept responsibilities at USA-34.

In September, Hqs USAF tasked the Strategic Air Command (SAC) and USAFSS with the implementation of a long range program for conducting COMINT intercept operations along the Soviet Arctic periphery. This program would include all SAC ferret operations in the Alaskan theater. The requirement was predicated on the need for intercept of VHF and unique communications activity in the Soviet Arctic, which were beyond the capability of existing ground intercept locations and airborne platform intercept facilities. The USAFSS was tasked to operate one (1) HF/VHF (CW or voice) COMINT position in an RB-47H on certain selected routes in the Arctic area. The unclassified codename applied to this project was "BONUS BABY".

A tentative date for commencement of project "BONUS BABY" was set at 5 January 1960. USAFSS was tasked with providing six (6) airborne intercept operators and two (2) electronic countermeasure (ECM) repairmen to this project.

During a shutdown of the FPS-17 at Shemya, it was discovered that a considerable portion of the interference to ELIMT equipment, previously attributed to the FPS-17, was actually being generated within the ELIMT equipment itself. Measures to counteract this internal noise problem were taken as a result.

As 1959 drew to a close, a review of accomplishments indicated that this year had been one of consolidation and strengthen ing of the existing posture. Notable improvements were accomplished in intercept and processing functions which resulted in more intercept productivity and increased efficiency of reporting. Close coordination through the AFSSO, AICOM/AAC resulted in increased satisfaction by local consumers in our intelligence products. Considerable discussion was held toward the goal of better coverage of the target area. (DIG)

# CHAPTER 11 - 1960

On 29 February 1960, "BOHUS BABY" operations at Eielson AFB (Fairbanks, Alaska) were designated as Operating Location #1, 6981st RGM. All necessary equipment and personnel were in place on 14 January, and the first "BOHUS BABY" missions were flown on 19 and 21 January respectively.

An additional site survey of the Gambell area was planned in early 1960. This survey was intended to determine the availability of unique COMINT/ELINT signals at that site. In addition, a billtop VHF intercept test was planned for N. E. Cape to coincide with the Gambell survey. In May, NSA advised USAFSS that they desired to operate vans at Gambell for this site survey, with the test to take place between 1 July and 30 September 1960. NSA simultaneously requested that USAFSS provide an operational compliment of four (4) intercept operators and one (1) maintenance man. The 6981st RGM was tasked with providing the team commander, operators, and spare parts for equipment utilized. USAFSS directed that the equipment, including vans, utilized at Gambell be transferred to N. E. Cape for the proposed hilltop test to follow the Gambell survey. The project was originally assigned the codename "ORE CAR"; however, an early compromise of this original codename caused the project to be reassigned under codename "ROAD BED".

The primary mission of project "ROAD RED" was to conduct a

To obtain the desired sampling, the test was divided into three phases: (1) Gambell survey; (2) N. E. Cape Hillton survey; (3) Airborne Communications Reconnaissance Platform (ACRP) survey.

The Gambell survey was accomplished during the initial thirty (30) day period of the test, with the N. E. Cape Hilltop test being completed (after transfer of equipment and personnel) during the last thirty (30) days. The ACRP portion of the test was planned to overlap the two (2) ground tests to provide comparative results. Planning of the ACRP support of this project included deployment of one (1) RB-50 from Yokota AFB, Japan, to Elmendorf AFB. This action was completed on 17 July 1960, and codeword "ORANGE PIN" was assigned to the ACRP effort. Three

missions were flown by the RB-50 in conjunction with the test at the Gambell shore location (tests were also performed from atop the bluff at Gambell). These flights took place between 22 - 31 July 1960. (See Section V, N. E. Cape and Section VII, Gambell.)

A LF development mission was implemented at USA 34 on 23
September. In October, intercepted traffic indicated the possibility of fair to good copy on selected (b)(1)

(b)(1)
targets.

Increased emphasis was placed on first instance reporting in May as a result of comments made by the Commander USAFSS during a staff visit to this unit. The primary concern was the timeliness of reporting Spot and CRITIC information to prime consumers. A gradual buildup of flight analytical operations was initiated along with an evaluation of timeliness. This timeliness evaluation, implemented by flight operations staff personnel, was directed toward determining time lapses between last noted activity and time of transmission of Spot or CRITIC reportable information. Preliminary evaluations indicated that the average time lapse per report was in the vicinity of forty-nine (49) minutes. This delay, compared to the desired maximum ten (10) minute delay, and the ultimate goal of two (2) minute delay, indicated by the Commanding General, caused considerable concern. Steps were immediately taken to speed up report preparation and handling. By the end of 1960, time delay per report had been reduced by nearly fifty (50) percent, or approximately twenty-five (25) minutes per report.

The Wildwood AIH established in 1958-1959 was prepared for use in early September 1960 with the installation of equipment. C&E personnel of the 6981st REM conducted an exercise to test Alternate Headquarters capability shortly after installation of this equipment. The exercise was considered most satisfactory, and plans were prepared to conduct actual deployment and emergency type operations on a test basis during 1961.

A follow-up to project "ROAD RED" was conducted during the winter of 1960 under the codename "PROJECT HILLTOP". Initial action for the hilltop installation began on 29 December. The primary intent was to determine the best possible antenna design for the intercept of VHF ground station transmissions. USAFSS agreed in principal only to this test.

As a result of USAFSS attitude, the approach to this test was varied considerably prior to its actual implementation in early 1961. (See Section V, N. E. Cape.)

During the latter part of 1959, procedures were established to incorporate a 100 word per minute capability into the CONTET communications network. This project was titled "Circuit Conversion to 100 WPM Operations". The effort to accomplish this interim conversion of circuits proceded over the latter part of 1959 and early 1960. Progress was accomplished circuit by circuit from 1 September 1959 through 4 August 1960, at which time the final conversion was accomplished.

# CHAPTER 12 - 1961

As a follow-up to the planned N. E. Cape Hilltop test (which had been somewhat stymied by lack of support from USAFSS and other inherent problems), the 5070th Air Befense Wing, Elmendorf AFB, was approached in March 1961, and permission requested to install and operate a test intercept position in the radar operations building on the hilltop at N. E. Cape during the summer of 1961. It was further requested that the 6981st be permitted to reserve this space for possible permanent installation if results of the test justified such action. The 5070th approved both requests, provided the number of personnel involved would not exceed available sleeping and work space.

To implement this project, it was planned to move one VHF radiotelephone position from the 6980th RSM to the van located below the radome at N. E. Cape billtop. Frequency utilisation for the test was in the 90 - 150 megacycle range.

In addition, a sixty (60) day survey of VIF/IF radioprinter transmissions was implemented at the operations area of the 6980th REM on 12 January. This survey was accomplished at the request of DIRMSA, and tape recordings were made of desired signals. Tapes were then forwarded to the 6961st REM and hard copy readouts were prepared and analyzed. At the end of the initial sixty (60) day period, it was decided to extend the test for an additional thirty (30) days.

A site survey was accomplished during the summer of 1961, at Cape Lisburne, by a joint AFSS/ASA team. The original intent of this survey was to perform a thirty (30) day test at Cape Lisburne and then transfer the operation to Tin City for an additional thirty (30) day test period. The primary purpose of the test was to determine the current status of electromagnetic signals

The move to Tin City at the completion of the Cape Lisburne test was delayed for an extensive period and finally cancelled due to extrems weather variations at Cape Lisburne and Tin City. Tin City weather remained below established minimums almost constantly for approximately thirty-six (36) days. Cape Lisburne weather was not much better. Prevailing northwest winds during this period of the year blew low level clouds along the coast line that formed fog against the mountains, thereby closing the respective airfields.

The survey of Cape Lisburne took place during the period 19 June to 14 July. (See Section XI, Cape Lisburne.)

The survey team was marooned at Cape Lisburne due to these adverse weather conditions for a period of over thirty days during this period. It was subsequently decided to forego testing of the Tin City area at that time.

During the summer of 1961, actual operational tests were performed at the 6981st RGM Alternate Interim Headquarters site at Wildwood Station, Kenai.

Two (2) intercept positions were established to sample RZ and RL communications in the N. E. Siberian area. Results obtained during these deployment tests indicated that Wildwood Station was very satisfactory as an alternate site. In fact, much of the intercept of known cases was accomplished with slightly better results than those obtained at the 6981st RGM.

The deployment tests were accomplished in four (4) increments, with each operations flight deploying a team for a period of one (1) to two (2) weeks. Teams were deployed on a rotating basis, and each operations flight completed its deployment maneuver, under realistic emergency deployment conditions.

In late 1960, plans to reestablish communications operations in the east wing of the Hqs 6981st RGM building were formulated. This action was taken as the initial step to conversion of communications operations to "Criticomm Interim".

This project continued to 22 July 1961 when cutover to the new Criticomm Interim system was accomplished in the new quarters. Additional details to improve operations and installation continued to be accomplished throughout 1961.

## SECTION II

#### ADAK

# **CHAPTER 1 - 1950**

Adak Island, Aleutian Chain, Alaska, was the site of the initial intercept effort in the USAFSS Alaskan Theater. Records of planning which led to the choice of this site for initiation of USAFSS Alaskan Theater intercept operations are not available. It is obvious, however, that the selection of this site can be attributed to the existence of the U.S. Navy installation at Adak which gave indications of available logistic support to an intercept operation. Co-existence with the Navy at Adak involved various problems. Although coordination between the two services was excellent, the presence of Detachment Able, 3rd RSM, on "Navy soil" on a permanent basis was never completely compatible.

Detachment Able began operations on 21 August 1950. (See Section I, 6981st RGM (3rd RSM)) The exact number of intercept positions involved at the inception of this effort is undeter-

e 14) 40

# **CHAPTER 2 - 1951**

It had become obvious by early 1951 that the wooden constructed facilities housing our operations at Adak were unsuitable to climactic conditions. Further new construction of a permanent variety would have to be completed prior to the summer of 1953 if this detachment was to continue operations. There was some hesitancy to proceed with new construction planning due to testing of a new Mavy Low Frequency transmitter in the vicinity of the operations site at Adak. All planning was discontinued in the summer of 1951, pending the outcome of the LF test.

# **CHAPTER 3 - 1952**

By early 1952, Detachment #31 (formerly Detachment Able) was subject to move for two reasons: (1) The Navy Bureau of Medicine was desirous of obtaining the main building, then housing Detachment #31, for a portion of their proposed hospital expension; (2) The reception at Detachment #31 was expected to suffer considerably from the Low Frequency, fifty (50) kilowatt, transmitter being installed adjacent to Detachment #31 operations.

Expansion of the intercept effort at Adak continued, however, and voice (radiotelephone) intercept in the HF range was initiated on 6 April 1952 with the installation of two (2) positions. Operators for this effort were trained at the Home intercept site. An additional HF voice intercept position was installed in June, bringing the total effort to three (3) positions. Again in October, HF voice intercept was increased, this time by the installation of two (2) additional positions, bringing the total number of positions at Adak to eighteen (18) manual Morse and five (5) radiotelephone.

Sufficient linguists had become available to Adak operations by the close of 1952 to allow assignment of linguists to their RDF effort. Conversely, Morse intercept operators were in short supply, causing occasional position closures.

Radioprinter equipment was installed at Adak on 9 August, on a test basis. However, due to interference from Naval communications at that site and only fair reception, this equipment was airlifted to the newly established site at Naknek for permanent installation. (See Section IV, Naknek.)

Problems encountered at the Adak site were further compounded by lack of recreational facilities which adversely affected morals.

Consideration was given to the idea of establishing operation at Attu or Shemya Islands. An initial survey of Shemya had been accomplished in December 1951 with this purpose in mind.

# CHAPTER 4 - 1953

During the early part of 1953, operations at Adak remained somewhat static. However, it was obvious that Adak's existence as a USAFSS intercept site was soon to be terminated.

Discussion had taken place at the 3rd RSM about the possibility of establishing an intercept operation in the Green Lake area of Elmendorf AFB (See Section I, 6981st REM (3rd RSM)). As a result of this discussion, a total of twelve (12) manual Morse intercept positions were in operation at the temporary Green Lake site on 1 July. Some intercept assignments previously tasked at Adak were transferred to the Green Lake operations at that time.

Buring this period, and throughout the remainder of 1953, Adak operations began a gradual decline. This decreasing effort corresponded directly with the initiation and expansion of the effort at the Green Lake site, Elmendorf AFB. By the end of the year, Adak operations had been curtailed to the point that it caused a manpower cut of more than sixty (60) per cent in assigned personnel strength. Only four (4) positions remained operational at the Adak installation; two (2) manual Morse, and two (2) HF radiotelephone. Meanwhile, Green Lake had expanded to thirty-eight (38) intercept positions.

# CHAPTER 5 - 1954

During January 1954, the final deactivation of the Adak effort was accomplished. Two (2) manual Morse positions and one (1) RDF position were turned over to the established Naval Communication Supplementary Activity (USN-13) (See Part III, U. S. Navy). These positions retained their original assignments, but were to be manned and equipped by the Navy under the NSA cross servicing agreement. The positions remained under the general jurisdiction of the 3rd RSM. However, this condition proved to be temporary in nature, and in late 1954, the National Security Agency assumed control of these positions and allotted them to the Navy.

Of the two (2) radiotelephone positions remaining at Adak at the time of deactivation, one was transferred to the newly established site at N. E. Cape, and the other was closed.

Personnel and equipment were returned to Elmendorf AFB (3rd RSM) for subsequent reassignment to other operational sites.

The real estate at Adak was returned to Naval jurisdiction on 15 March, and the curtain fell on this phase of USAFSS Alaskan Theater operations.

# SECTION III

#### NOME

## CHAPTER 1 - 1950

As in the case of Adak (See Section II, Adak), Nome was chosen as an intercept location prior to the arrival of the 3rd RSM in Alaska. Nome, Marks AFB, was the site of the second intercept operation in the USAFSS Alaskan Theater.

Here again, as in the case of Adak, availability of logistics was the prime concern in the choice of location.

Operations were initiated at Nome on 12 November 1950, and this site was designated Detachment Baker, 3rd RSM. Operations consisted of limited HF radiotelephone, manual Morse, and LF/MF Morse efforts.

This site was established on approximately the same temporary status as Adak. Plans were already being carried out for a site at N. E. Cape, St. Lawrence Island, with initial operation scheduled originally for 1 December 1951.

## **CHAPTER 2 - 1951**

As indicated in Section I, plans for eventual incorporation of Nome (Detachment Baker) intercept effort with the N. E. Cape operations, then under construction, had been established in late 1950.

Transportation from Elmendorf AFB to Nome, and return, had become an increasingly difficult problem. This was primarily due to the fact that no planes flew direct from Elmendorf to Nome. All flights passed through Fairbanks, and during winter months, Fairbanks was frequently closed because of ice fogs for considerable periods.

As no indication of a site survey of N. E. Cape is in evidence, it appears that this problem, plus the availability of continued logistical support at N. E. Cape, may have attributed to the decision to incorporate Nome operations with the projected operations at that site. No doubt the nearness of the two locations, and the close geographical proximity to target transmitters was a prime factor.

Other difficulties such as high winds, heavy icing conditions, interference from the local AFRS station, failures of base power, and even the reputation of Nome as a wide open frontier town, caused considerable concern and hastened the departure of Detachment #32 (formerly Detachment Baker) from the Nome site.

## CHAPTER 3 - 1952

Adverse weather conditions, plus an error in funding estimates, had delayed the construction of the N. E. Cape site, thus prolonging the departure from Nome. A new target date for completion of the N. E. Cape site had been set for 1 July 1952; however, this date also was revised due to adverse weather and supply problems, and a new date of June 1953 was established.

Plans to activate the N. E. Cape operation with subsequent closing of the Nome facility (Detachment 32) were formulated and targeted for August 1952, then readjusted to the summer of 1953 as it became apparent that the N. E. Cape site could not be prepared for occupancy. The move remained contingent upon procurement of adequate communications equipment and the initiation of regular aircraft flights, neither of which were available at this late date.

Additional concern was caused by the Air Force's avowed intent to evacuate Marks Air Force Base. This, of course, would result in lack of local logistical support for the USAFSS tenant unit.

# CHAPTER 4 - 1953

Finally, in the spring of 1953, the move of Detachment 32, now redesignated Detachment 2, was accomplished. This transfer took place between 25 April and 12 May 1953, and was arranged so that no loss of intercept was experienced, and necessitated only eight (8) hours of communications outage.

And so, in the short space of three (3) years, the 3rd RSM had closed operations at the two (2) original Alaskan intercept sites and had established operations in two (2) new sites. (See Section I, 6981st RGM (3rd RSM) and Section V, N. E. Cape.)

# SECTION IV

#### naknek

## **CHAPTER 1 - 1950**

Waknek AFB, King Salmon, Alaska, had apparently been projected as a future site of operations in the early stages of USAFSS Alaskan Theater operations in the same manner as N. E. Cape. Subsequent to arrival of the 3rd RSM in Alaska and the establishment of intercept efforts at Adak and Nome, plans were concluded to construct a site at Maknek, as well as N. E. Cape.

Naknek plans were formulated more rapidly, and it appeared at the earliest stages that Naknek would become operational in the summer of 1951.

# **CHAPTER 2 - 1951**

Construction materials for the Maknek facility began to arrive in Alaska in July of 1951, and were transported direct to Maknek.

To hasten the establishment of intercept operations, a site previously occupied by Det 1, 136th Communications Security Sqdn was surveyed, and it was decided to initiate interim operations at this site, pending the completion of the installation then a under construction. As of October 1951, a total of twenty (20) intercept positions were installed in these temporary quarters. Sixteen (16) of these positions were placed in operation, with the remainder utilized for training purposes. A control console was installed in the intercept operations area to provide facilities for the Intercept Trick Chief and Direction Finding Controller.

Estimated date for the completion of the permanent facility at Maknek had been set for June 1952. Construction of buildings was completed by 15 December 1951, but occupancy was withheld pending availability of operational equipment.

## CHAPTER 3 - 1952

On 24 September 1952, the final inspection of the Maknek facility was accomplished, and the detachment was moved in and commenced operations within one (1) week.

The operations were somewhat curtailed due to a shortage of intercept operator personnel. This shortage caused the reduction of operations at the temporary site to ten (10) operational positions from the original sixteen (16) positions.

In October, an electronics (ELINT) test was performed at Naknek to determine the suitability of that site for the intercept of ELINT signals. During the same period, an additional survey team performed a test to determine the availability of HF radiotelephone signals. Little information is available as to the exact findings of these tests; however, it appears that these findings did not substantiate the establishment of either HF radiotelephone or ELINT intercept efforts at Naknek.

Installation of an HF RDF unit at Naknek was completed on 16 December. This made a total of four (4) installed HF RDF facilities in the USAFSS Alaskan Theater, with one (1) each at 3rd RSM, Nome, Adak, and Naknek; however, the Naknek unit was not declared operational in 1952 because of personnel shortages.

At the close of 1952, the Naknek operation consisted of ten (10) COMINT positions. Of this number, six (6) were manual Morse and four (4) were automatic Morse with (b)(1) the primary intercept.

# **CHAPTER 4 - 1953**

Installation of radioprinter intercept operations was completed at Naknek in January 1953. The original installation consisted of five (5) positions: two (2) demultiplex and three (3) single channel. A training assignment for non-Morse intercept was received on 31 January and was immediately implemented. Testing continued through the early part of 1953 with considerable equipment outage experienced due to lack of replacement parts.

On 22 June, an additional position was installed to provide the capability of intercepting two (2) channel and double frequency shift (DFS) transmission.

The RDF installation at Naknek was completed on 5 January 1953 and commenced operations on 7 January.

By April, the ten (10) installed manual Morse positions were fully operational. Of the five (5) automatic Morse positions, three (3) became operational in May 1953.

There were a number of changes in position configuration throughout 1953 at Naknek. With the increase in intercept at the Green Lake site, Elmendorf AFB, the manual Morse and automatic Morse positions began to be phased out, and at the close of the year, only four (4) manual Morse positions remained operational.

At the same time, radioprinter intercept efforts had expanded to a ten (10) position capability (b)(1)

Radioprinter intercept productivity at this site was at a considerably high-level during this entire period.

## CHAPTER 5 - 1954

Maknek operations continued with ten (10) radioprinter positions and four (4) manual Morse positions. During the early part of 1954, however, a shortage of manual Morse intercept operators had forced the utilization of printer intercept operators in both manual Morse and RDF operations.

A visit by an NSA radioprinter representative (Mr. Beresford) in May resulted in extremely complimentary comments regarding the overall radioprinter effort. He further cited Naknek (now Flight C) as having the best radioprinter T/A effort in the theater.

## CHAPTER 6 - 1955

During early 1955, the manual Morse effort at Naknek (now designated Detachment #3) was curtailed to one (1) position. The assignments previously covered on the deleted positions were absorbed by the expanding intercept effort at the 3rd RSM.

In May, Detachment #3, Naknek, became the 6986th RSM as the result of converting all Security Service units to the 69xx series designations.

Project "WILD WAVES", an ELINT/RADINT survey, was implemented at Naknek in late July 1955 (See Section 1, Chapter 6, 6981st RGM). The Naknek site was subsequently chosen as the site for permanent installation of an ELINT/RADINT intercept effort in the Alaskan Theater. Plans, including equipment, personnel, support, etc., continued to be formulated during the remainder of 1955. The Naknek installation was to be the initial ELINT/RADINT intercept effort by the U. S.

In the fall of 1955, Naknek again reverted to detachment status. This time the designation was Detachment #2, 6981st RSM. During the late months of 1955, it became apparent that Naknek was also due for deactivation, and all plans for the ELINT/RADINT effort ceased.

## CHAPTER 7 - 1956

In view of the speculation that Naknek would cease operations in the not-too-distant future, a radioprinter test was conducted at the new 6981st RGM operations site (Elmendorf AFB) during the month of June 1956. Results of this test indicated that radioprinter signals could, in most instances, be copied as adequately at the 6981st RGM as at Naknek.

Naknek, however, remained in operation throughout 1956. In fact, there was some expansion of intercept facilities at Naknek in the early part of 1956. Two (2) additional manual Morse positions were placed in operation to cover Morse parallels of intercepted radioprinter links. Further, Naknek temporarily became the Alternate Interim Headquarters of the 6981st RGM, and it was to remain so, even after final deactivation of actual operations, until replaced in 1958 by the Wildwood Station, Kenai, site.

# **CHAPTER 8 - 1957**

Naknek, Detachment #2, continued operations until August 1957. All intercept assignments at Naknek had then been transferred to the 6981st RGM, and the second phase of USAFSS Alaskan Theater operations had completed a full cycle.

#### SECTION V - N. E. CAPE

#### CHAPTER 1 - 1950

The N. E. Cape installation had apparently been planned in the early stages of operation in the USAFSS Alaskan Theater. The only available indications to support the choice of this location as an intercept site were the availability of apparently permanent logistical support (the location of the 712th AC&W was at that site), and the problems encountered in the early stages of the Nome operations. In addition, of course, was the Air Force's intent to deactivate Marks Air Force Base (Nome).

# CHAPTER 2 - 1951

The original planned date for completion of the operational site at N. E. Cape, St. Lawrence Island, was 1 December 1951. However, adverse weather conditions, plus an obvious error in the estimate of funds required for construction, had forced a revision of this target date to the spring of 1952. USAF was contacted regarding the funding for this project, and authorization for increase of funding by 1,500,000 dollars was obtained in March 1951. This additional funding brought the total to 3,200,000 dollars.

Construction was started in the spring of 1951, and continued throughout the summer. The situation at Nome remained static pending the completion of the construction project at N. E. Cape.

#### **CHAPTER 3 - 1952**

The estimated completion date for the St. Lawrence Island facility was revised and had been rescheduled for July 1952; however, continued adverse weather conditions and supply problems again forced a revision in estimated completion date with a third target date for occupancy set for June 1953.

An advance echelon of 6981st RGM personnel was moved to St. Lawrence Island in early August 1952 to locate supplies and install equipment. A final inspection of construction was accomplished on 23 September, and all remaining buildings and installations were accepted. The move of Detachment #32, Nome, to N. E. Cape remained contingent upon the procurement of adequate communications equipment and the initiation of regular aircraft flights to and from St. Lawrence Island.

### CHAPTER 4 - 1953

The move of Detachment #2, (formerly Det #32) Nome, to N. E. Cape took place between 25 April to 12 May 1953. Transfer of operational functions was accomplished on 8 May with no loss in intercept, and only an eight (8) hour shutdown of communications. The redesignation of this unit to Flight B was made immediately subsequent to the transfer from Nome to N. E. Cape.

The first winter at N. E. Cape was extremely eventful. Insofar as intercept and general operations were concerned, little change was realized in comparison to previous operations at Nome. In other areas, changes were somewhat more drastic. What were considered to be poor logistics at Nome proved to be far from minimum. The 712th AC&W Sqdn at N. E. Cape had failed to include any requirements for Flight B in their estimates for obtaining winter supplies from the 11th Air Division at Eielson AFB. Repeated queries from N. E. Cape to Eielson were unanswered or resulted in statements that subject supplies (for N. E. Cape) were at Nome. Finally, when good flying weather was over, and winter's blizzards had arrived, the Commander of the N. E. Cape operations was forced to travel to Elmendorf to make arrangements for both food and supplies, which were running low. Due to marginal flying conditions, it was necessary to contract civilian air lines at this late date to transport the required supplies to N. E. Cape.

Transportation from the quarters area at N. E. Cape to the operations area was accomplished with one (1) weasel. Snow removal equipment was out of commission and there were no spare parts to repair it. On 19 December 1953, the road to operations was completely closed by fifteen (15) to twenty (20) foot drifts. The weasel continued operations; however, when it was halted for repair, shift changes were made on snowshoes. A large drift piled up around the operations building, making it necessary to tunnel through to the operations door to permit access.

Position posture at N. E. Cape at the close of 1953 included four (4) radiotelephone positions, four (4) manual Morse positions, and one (1) automatic Morse intercept position.

### CHAPTER 5 - 1954

Problems at N. E. Cape continued through late winter 1953 and spring of 1954. Serious morale problems were caused by failure of the mail system. Lack of support from the Nome area was cited as the primary cause of this failure. Personnel due to rotate during these winter months were being delayed, while personnel deploying to the site were backlogged at Nome while awaiting transportation to N. E. Cape. Drifting snow frequently covered the landing strip at N. E. Cape, and hand shoveling to clear the runway was frequently accomplished.

The heating facilities in the operations building appeared to be inadequate, and it was often necessary for operators to wear parks and flight pants while on duty. It was finally determined that the heating problem was almost entirely caused by a low setting of the thermostat, which was not located until the following spring.

A one way telephone line was installed from the 712th ACRW Squadron Operations to permit passing of U. S. radar reflections to Flight B operations. Plots received in this manner were recorded by Flight B analysts on a plotting board in the Intercept Section and utilized in correlation with plots intercepted (b)(1)

Although not reportable in correlated form, this effort provided an interesting confirmation to the COMINT reporting effort, and in many instances, previded a means of correcting possible errors and confirming analytical conclusions.

The chimney to the incinerator blew down in March. During the period in which repairs took place, a considerable amount of classified waste was stored in the operations building. After reconstruction, the chimney smoked up the adjacent area in operations. To compensate for smoke damage, the area around the incinerator was painted a dark gray.

Communications also suffered during this period with over 50% outage experienced on the transmit side to the 6981st RGM (Elmendorf AFB). Two thirds of this outage was attributed to Alaska Communications System (ACS) on the Nome to Anchorage link.

On 11 January 1954, one of the two antennas broke during forty degree below zero weather and extremely heavy ice fogs. Temporary repairs were accomplished to continue operations until spring.

In March, a severe wind storm reaching 105 knots effectively put this unit out of operation for approximately twenty four (24) hours. It blew the VHF rhombic antennas down, badly damaged the AN/CRD-2A antenna, and knocked the main power link out. An emergency power generator, salvaged from a previous civilian construction operation, was utilized. However, this provided unstable power, and sixteen (16) hours later, a surge of voltage blew all fuses and circuit breakers in operations. The power cable was completely repaired the following day and full operations continued.

The HF radio telephone operation had occasionally been forced to use the VHF rhombics due to shortage of HF antennas. Results were very poor. Additional antenna installation was scheduled for the summer of 1954. Both HF and VHF direction finding facilities were available for installation in the spring of 1954.

"Mona Lisa", the yearly resupply operation, finally arrived in June. Food, supply, and equipment problems were temporarily alleviated to some degree.

An assignment was received for the automatic Morse position during November 1954.

Following installation of the HF and VHF DF facilities, a variety of problems were encountered. These included the Arctic foxes' taste for the nylon ropes which guyed the Adcock antennas. These foxes also chewed up the spiral four cables leading to operations. Arctic Cwls continued to roost in the VHF antenna dipoles causing considerable breakage.

On 1 November 1954, Flight B was once again designated Detachment #2, 3rd RSM.

An intercept improvement was accomplished in late 1954, when audio intercommunications were installed in the operations at N. E. Cape. During this same period, N. E. Cape became active as a participating station in the USAFSS Alaskan Theater RDF Flash Net.

## **CHAPTER 6 - 1955**

During 1955, the operations at N. E. Cape were stabilized with some expansion of effort. In May, Detachment #2, 6981st RGM, N. E. Cape was redesignated the 6982nd RSM. This designation was temporary in nature, and during late 1955, N. E. Cape was once again redesignated, this time to Detachment #1, 6981st RSM.

The most notable occurrence in 1955 was the participation in project "SALT CEDAR" at Gambell, St. Lawrence Island. During May 1955, an officer and five (5) airmen departed for Elmendorf to provide manning for the ELINT intercept portion of this survey. The survey was initiated during June 1955. At the completion of the survey (on 15 September 1955), all equipment and personnel returned to N. E. Cape, with the exception of one (1) HF/VHF radiotelephone position and personnel to operate this position. This position was moved into collocation with the ASA detachment at Gambell. Manning was to be accomplished by providing volunteer radiotelephone operators from N. E. Cape who had over sixty (60) days experience as operators. These personnel were placed on temporary duty status with the ASA detachment.

# CHAPTER 7 - 1956

Support of the VHF effort at Gambell continued during early 1956. There was considerable speculation and some planning for the establishment of a permanent operation at Gambell which was to be designated Detachment #5.

During the summer of 1956, the Commander, 6981st RGM, proposed that Detachment #1, N. E. Cape, and the tentatively planned Detachment #5, Gambell, be collocated at Gambell. DIRNSA countered with a decision that the unique intercept available at Gambell did not warrant both an ASA and USAFSS effort. Planning for a permanent site at Gambell was stopped, and arrangements made to transfer the VHF mission to ASA personnel at Gambell. USAFSS also recommended to Hqs USAF that the proposed ELINT effort at Gambell also be turned over to ASA. This effort was programmed for fiscal year 1957. As a result, programming for ELINT was slipped until some decision could be made as to what agency would be responsible for such an effort at Gambell.

## CHAPTER 8 - 1957

Due to the problems involving the establishment of a permanent site at Pt. Barrow, plus difficulties encountered from recent economy measures, plans were initiated in the spring of 1957 toward integrating the proposed effort at Pt. Barrow with the operations at N. E. Cape. This consolidation of effort was tentatively approved, and final plans were made to accomplish the integration during the first half of 1958. (See Section X, Chapter 4, Barrow.)

However, there remained some reluctance to accomplish the planned integration at N. E. Cape. Funds, made available for construction at Pt. Barrow, had been withdrawn, and it was decided that these funds would be utilized to accomplish a series of surveys to find the most adequate consolidation site for combined intercept effort. Preliminary surveys under project "MODEL HOME" were accomplished during the summer of 1957; however, the actual surveys did not take place. In place of the surveys, plans were made to perform a hearability test at N. E. Cape to determine intercept capability of assignments covered at Pt. Barrow.

The hearability test at N. E. Cape was initiated on 15 October 1957. Results of this testing were generally satisfactory, and it was decided that consolidation would take place in early 1958.

Detachment #1, N. E. Cape position alignment at the close of 1957, consisted of three (3) HF manual Morse positions, two (2) IF/HF manual Morse positions, one (1) IF automatic Morse position, three (3) HF radiotelephone positions, one (1) HF/VHF radiotelephone position, and one (1) HF/RDF position.

### CHAPTER 9 - 1958

The initial phase of integrating the Pt. Barrow effort with the N. E. Cape operations was begun 26 February 1958. By 19 May, Pt. Barrow was deactivated, and all intercept effort formerly accomplished at that site had been assumed by N. E. Cape (See Section X, Chapter 5, Barrow).

The Alaska Communications System between N. E. Cape and Elmendorf AFB was permanently converted to White Alice operation in February 1958. Immediate improvement in communications resulted, and both communications outages and time delays were considerably reduced.

To compensate for the additional assignment of the former Pt. Barrow mission by N. E. Cape, a major portion of the HF automatic Morse effort previously accomplished at N. E. Cape was assumed by the 6981st RGM. This was made possible by the installation of AFSAV/D-48 equipment at the 6981st RGM. This assignment change proved to be most desirable due to the considerable backlogs previously experienced by N. E. Cape in accomplishing transcripts. The AFSAV/D-48 provided automatic transcription of automatic Morse signals.

### CHAPTER 10 - 1959

A hearability test was conducted at Elmendorf AFB to determine the capability of the 6981st RCM in intercepting HF (b)(1) communications utilizing automatic Morse facilities. (Most of the automatic Morse mission had already been assumed by the 6981st RCM - see Chapter 9.) Completion of this test resulted in the further transfer of these assignments from N. E. Cape to the 6981st RCM, thus further alleviating transcribing problems being experienced at N. E. Cape. This change of mission allowed N. E. Cape operations to concentrate on IF automatic Morse targets for further development of this medium.

On 23 June, a team of four (4) airmen and one (1) civilian technical representative proceeded to N. E. Cape to install a new type (CV-3) VHF antenna. The installation was accomplished with considerable cooperation and assistance from the 712th AC&W Squadron. A hardstand was constructed in the tundra, and the antenna was installed on it. This antenna provided a gain of four to six decibals in comparison to the other VHF antennas then in use.

### CHAPTER 11 - 1960

During 1960, N. E. Cape became involved in a sophisticated survey operation scheduled for Gambell, St. Lawrence Island. The codename of this survey was "ROAD BED".

The primary intent of this test was to conduct a hearability survey for (b)(1) electromagnetic emissions (b)(1) from various locations on St. Lawrence Island. Gambell and the N. E. Cape hilltop were chosen as the test sites.

The survey at Gambell was accomplished during the initial 30 day period (15 July to 15 August 1960). Upon completion of the Gambell phase, the survey team and selected equipment were airlifted to N. E. Cape to perform the hilltop portion of the survey. In the process of this airlift, one of the intercept vans was dropped and demolished. To replace this van, a hut that was formerly a part of an RDF set at N. E. Cape was airlifted to the site and placed adjacent to the maintenance van on the hilltop. Operations at this site commenced on 17 August 1960 and continued until 15 September 1960.

The hearability of signals in the VHF range, at both Gambell and the N. E. Cape hilltop, was considerably better than that previously experienced at existing stations. The interference from radar installations and other electronic activities at the N. E. Cape Hilltop location somewhat detracted from the results at that site.

A follow-up to this project was planned during the winter of 1960. The project was planned for accomplishment during the summer of 1961 at the N. B. Cape Hilltop site. Initial planning took place in December with the primary intent to determine the best possible antenna design for the intercept of VHF ground station activity. Due to the nature of the project, primary responsibility was placed with the Communications and Electronics Division of the 6981st RGM.

On 16 August 1960, Detachment #1, 6981st RGM became the 6980th Radio Squadron Mobile by USAFSS General Order.

### CHAPTER 12 - 1961

As a result of USAFSE reluctance to support the follow-up VHF test at the hilltop site, the 5070th Air Defense Wing, Elmendorf AFB, was approached in March 1961 with a request for permission to install and operate a test intercept position in the radar dome, at the N. E. Cape hilltop during the summer of 1961. It was additionally requested that the 6981st RGM be granted permission to reserve this space in the radar dome for the possibility of permanent installation if results of the test justified such action. The 5070th concurred with the test and further agreed to permanent installation in the event that the number of personnel involved would not exceed available sleeping and working areas.

After further consideration, installation in the radome was determined unfeasible due to requirements for insulation, heating, sound proofing, shielding from interference, etc. Also, the 5070th ADW and GEEIA did not approve of this type of installation.

To implement the project (Hilltop), it was decided to move one VHF radiotelephone position from the 6980th RSM to the hill-top site in a van located just below the radome. The test was confirmed by publication of the 6981st RGM Ops Order 1-61, which established the date of initiation at 1 July 1961 and the period of activity of the project at ninety (90) days.

A new VHF receiver (17A3 General Electronics) and a Log Periodic Antenna (EV-5) were received from USAFSS.

The hilltop project was delayed by difficulties encountered in moving personnel (the access road remained closed for the winter), bad weather which hampered antenna construction (40 knot winds and ice), inability to move and install the EV-5 antenna, damage to the 17A3 receiver in transit, and some confusion as to the correct date for implementation of the project.

The project (Hilltop) became operational on 18 July 1961 without the benefit of the EV-5 or 17A3. It was estimated that little would be gained without these desired sophisticated types of equipment, and the 6980th RSM recommended that the test be cancelled until the summer of 1962.

Overall results of the survey, which was discontinued as of 1 September 1961, supported original estimates. Results were no better, and in some instances, not as good at the Hilltop site as at the main operational location. Ground stations were infrequently heard at the hilltop site. At the completion of the test, the EV-5 antenna was installed at the 6980th RSM. Subsequent results proved this antenna to be superior to previously installed antennas. The 17A3 receiver was shipped back to USAFSS.

A Hilltop project for 1962 was recommended, with installation of sophisticated equipment to be in place by 15 June 1962.

A sixty (60) day survey of Soviet VIF/IF radioprinter transmissions was implemented at N. E. Cape on 12 January 1961. This survey was accomplished at the request of DIRNSA. Intercepted radioprinter signals were tape recorded. Tapes were then forwarded to the 6981st RGM where transcription and analysis were performed. Fair results were obtained, and at the end of the initial test period an extension of thirty (30) days was approved. The test was concluded on 12 April 1961.

This test was accomplished on a time available basis, utilizing an automatic Morse position. General results indicated that (D)(I) traffic constituted approximately 21 per cent of the total intercept, and unidentified traffic constituted approximately 30 per cent. The intercept of U. S. radioprinter constituted approximately 31 per cent, and the remainder of the intercept was divided (D)(I)

Only limited analysis could be performed due to the insufficient volume of intercept. Quality of tapes recorded was fair. A good majority of the unidentified transmissions was thought to be U. S. and International Commercial. Most of these signals were uncopiable, improperly recorded, or recordings of carriers with no intelligence.

A second radioprinter test was performed at USA 28 during 1961. This test covered the period of 17 August through 28 November. Intercept was obtained in the low, medium, and high (b)(1)

This intercept was generally unique to traffic copied at the 6981st RGM. As a result of this and the previous test performed in early 1961, it was recommended that two radioprinter positions be established at USA 28.

#### SECTION VI - SHEMYA

#### CHAPTER 1 - 1951

During December 1951, a site survey team, consisting of two (2) officers (one from Hqs 3rd RSM and the other from Det #31, Adak) and fourteen (14) airmen from Det #31, proceeded to Shemya AFB to determine the radio reception at that location as compared to the Adak site.

Results of this test indicated that intercept of manual Morse targets was slightly better at Shemya, while intercept of HF radiotelephone targets far exceeded that at Adak. In addition, facilities available at Shemya were considered much more desirable than those at Adak.

# CHAPTER 2 - 1952

Plans for installing an operational 'team' at Shemya AFB were formulated in June 1952. A survey of possible housing resulted in the selection of a building for Operations. This building, formerly utilized by ACS, was believed to be in sufficiently good condition that rehabilitation could be accomplished, utilizing AIO and troop labor.

It had become imperative that a departure from Adak must be accomplished, and Shemya appeared to be the most desirable alternate.

# CHAPTER 3 - 1953

No further plans for using Shemya as an operational site were accomplished during 1953. Installation of intercept operations at Green Lake, Elmendorf AFB, had made the requirement for locating an alternate site for Adak intercept operations less pressing.

#### CHAPTER 4 - 1954

A site survey was conducted at Shemya AFB, during the period 11 February through 16 February 1954.

Quarters and messing facilities were provided by the 5021st Air Base Squadron at Shemya AFB. Operational facilities were provided by the ASA detachment located at that base.

The site survey was jointly conducted with ASA personnel. Air Force mission was the interception and identification of radiotelephone communications.

The survey was conducted on the second floor of a hangar, which also housed AFRS, and was located only one half mile from the Shemya tower. This caused considerable interference and slightly hampered results. Further, a generator used in servicing Canadian aircraft periodically blocked the intercept frequency causing negative results.

HF voice intercept results were good and comparatively better than those previously experienced at Adak, despite the various problems encountered. Generally poor recording equipment was used; however, tests were made utilizing an SP-600 receiver and the best ASA recording equipment available, with remarkable results in signal strength and clarity.

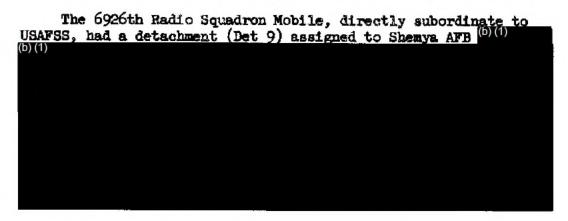
Antenna arrangements consisted of wires strung across the top of the hangar which left much to be desired. All indications were that with adequate equipment located in an area not affected by interference, and with proper antenna alignment, considerably improved results in the HF voice intercept operations of the USAFSS Alaskan Theater could be achieved.

## CHAPTER 5 - 1955

The establishment of Detachment #3, proposed for Attu or Shemya Islands, was still in doubt during 1955. Discussion was still under way, but no firm decision had been made as to which of these sites would be utilized as a permanent operational location.

### **CHAPTER 6 - 1956**

During January 1956, the Alaskan Air Command (AAC) received cost estimates for sites at both Shemya and Attu Islands. As a result, AAC forwarded recommendations to Hq USAF that Shemya be utilized in lieu of Attu as a permanent intercept installation.



In February 1956, Hqs USAFSS was notified by AAC that AAC planned to implement support for Detachment #3, through Northwest Airlines, on 1 August 1956.

March 1956, and USAFSS proceeded to deactivate the 6926th RSM, including Detachment #9, at Shemya.

In April 1956, the 6981st RGM requested USAFSS approval to 'phase in' operations at Shemya for permanent establishment by June 1956. This plan was approved, and "TEAM ECHO" departed Elmendorf on 1 May to establish the initial operation.

Detachment #3 subsequently began official operations on 1 June. Problems arose in July as a result of AAC failure to provide fiscal year 1957 support for this operation (See Section 1, 6981st RCM).

In May 1956, a VHF test at Shemya was proposed by the 6981st RGM. This test was to follow the current test at Gambell (See Section VII, Gambell). USAFSS was reminded that the Alaskan Theater was programmed to have two (2) VHF positions installed by 1 July 1957, with one to become operational by 1 October 1957, and one to become operational by 1 October 1958. As a result of this recommendation, the Master Program was amended to delete the programmed VHF installation.

Later, in December, the 6981st RGM forwarded information to USAFSS regarding a proposed VHF test to be conducted at Shemya by ASA in early 1957. ASAAL had requested the use of three (3)

VHF receivers and two (2) antenna kits for approximately ninety (90) days. The 6981st RCM requested authorization to provide this equipment in order that desired testing of VHF could be accomplished at Shemya.

### CHAPTER 7 - 1957

The VHF intercept survey was accomplished by the Army Security Agency (ASA) with USAFSS equipment during the period of 10 March through 9 April 1957.

VHF voice, HF/VHF voice, HF manual Morse, and ELINT signals were targets of this survey, although the primary subject was VHF. HF/VHF voice intercept to 42 megacycles was good, with best results in the HF range. No voice signals were heard above 48 megacycles. Preliminary propagation studies indicated that Shemya was not favorably located for target signals above 42 megacycles.

The conclusions of the test were that intercept below 42 megacycles would be satisfactory at Shemya with properly engineered antennas.

# **CHAPTER 8 - 1958**

In early 1958, a RADINT collection facility had been programmed for Shemya by Eq USAF. The objective of this facility would be interception of trajectory information on Soviet ICEM's fired on the Tyura Tam Missile Test Range (TEMTR). Shemya had been selected as the most adequate site for such an operation due to its relative position to the normal arc of a ballistic missile fired to the Kamchatka Peninsula and South Pacific impact areas from the Tyura Tam Range Head. Target date for completion of this installation was 15 March 1958.

There was some concern over the possibility of redar interference in the accomplishment of the COMINT/ELIMT mission currently assigned at Shemya. (ELIMT positions were installed but not operational.)

During June, five (5) EIJHT intercept positions, copying signals (5)(1). Were placed in operation at Shemya under 6981st RCM control. This installation raised the total number of positions in operation at Shemya to fourteen (14). These included four (4) manual Morse, five (5) EIJHT, three (3) HF radiotelephone, one (1) HF/VHF radiotelephone, and one (1) RDF.

The initiation of RADINT operations (FPS-17) was moved up to 1 July 1957 to allow (b)(1) personnel time for performance tests prior to relinquishing control to the 6981st RGM. During the test period, it was found that RADINT operations appeared to have little effect on COMINT operations, but its effect on ELINT operations would be somewhat severe. Procedures were established to provide automatic cut-off switches on ELINT equipment so that this equipment would be blanked out during periods of RADINT operation.

A conference to discuss general planning for joint ASA/USAFSS operations at Shemya was held on 3 August at the 6981st REM, by the Commander, USAFSS. One of the primary results of this planning meeting was an agreement to alternate command of the joint facility on a semi-annual basis between ASA and USAFSS.

Collocation of Detachment #3 and the 281st ASA Company operations was accomplished on 2 September 1958 with no loss of coverage. A joint operational designator (USJ-799) was assigned and the operation was officially designated "Joint Operations Group, Shemya" (AAF/JOG). Various projects were subsequently established to eliminate duplication of COMINT and ELINT efforts between the two services. During the latter part of 1958, additional plans were formulated to accomplish better coordinated operation of this joint effort.

#### CHAPTER 9 - 1959

Control of the ELINT effort at Shemya was transferred from the 6981st RGM to ASAAL in January 1959. Joint operational procedures were passed by joint directive of AFSS/Ft. Meade and CUSASA.

The FPS-17 RADINT operation was tasked, in July, with obtaining sightings of Intercontinental Ballistic Missiles (ICHM's), Earth Satellite Vehicles (ESV's), and other space vehicles, both friendly and foreign.

In an effort to determine the feasibility of RDF cross servicing action at Shemya, MSA proposed that the ASA RDF site (USJ-799B) assume USAFSS RDF responsibilities on a time available basis, commencing 1 August, for a ninety day period. To perform this test, the USAFSS RDF effort (USJ-799A) was closed down and personnel from this site were integrated with ASA RDF personnel at USJ-799B to accomplish both missions simultaneously. Intent of joint operations was for USJ-799B to respond to both CUSASAFAC and 6920th UF flashes with CUSASAFAC targets to receive first priority.

On 1 December 1959, this joint operation was discontinued due to lack of emphasis on USAFSS targets; however, in late December 1959, USJ-799A once again went out of operations when all antennas were lost in a wind storm.

Relocation with USJ-799B was accomplished again on 14 January 1960 on a temporary basis until reactivation of USJ-799A could be completed. USJ-799A was once again restored to operation on 16 April 1960.

Considerable interference to ELINT operations was experienced at Shemya since shortly after the installation of the FPS-17. Haturally the FPS-17 was thought to be the cause of it; however, it was actually being generated internally within the ELINT equipment itself. The close proximity of the two types of equipment (ELINT and RADINT) had prevented earlier discovery of this fact.

## CHAPTER 10 - 1960

Operations at Shemya remained somewhat stable during 1960.

The construction of a permanent joint operations/living quarters building began in the early spring of 1960, and was scheduled for completion by late fall. Actual occupancy of the new operations and living facility was effected during November 1960, although the building was not entirely completed. However, construction continued, and completion was realized in early 1961.

### CHAPTER 11 - 1961

Activity during 1961 continued on a level with that of 1959 and 1960. Completion of the permanent operations/living area building considerably improved general conditions.

A bowling alley was constructed on Shemya during this year and proved to be a great boost to morale.

The USAFSS was now firmly entrenched on Shemya, and a period of stabilization was underway.

The yearly rotation of personnel continued to cause considerable losses in capability during various periods, but these losses were beginning to be absorbed by qualified personnel arriving on consecutive overseas assignments as a result of the newly established 3D program.

### SECTION VII - GAMBELL

### CHAPTER 1 - 1954

USAFSS interest in the Gambell, St. Lawrence Island, location apparently took place in 1954.



The results of this initial survey, which took place between 11 January and 19 February 1954, were negative. VHF intercepts were not accomplished. (b)(1)

However, there was some doubt as to the reliability of VHF intercept equipment utilized for the survey. Pre-arranged tests with the departing aircraft (which brought the team to Gambell) were unsuccessful.

Buildings available at Gambell were found sufficient in number and condition to house a limited intercept effort. In addition, a former CAA station could provide additional housing facilities if required.

The lake at Gambell was used as a landing strip while it was frozen. However, summer operations would be limited to the amphibious variety until a solid strip could be constructed.

#### CHAPTER 2 - 1955

The second intercept test at Gambell was accomplished during the period of 5 February through 6 March 1955.

during 1954. (b)(1)

Improved intercept equipment was used, but results continued to be negative. (b)(1)

Interest continued in the Gambell site throughout 1955.

A site survey of a highly sophisticated nature was planned for Gambell during the summer of 1955. This survey was to accomplish testing for COMINT, ELINT and RADINT signals (D)(1)

Codename for this survey was "SAIT CEDAR".

Detailed preparations were made for this extensive survey, and plans were formulated in a highly professional manner. In conjunction with the plans for USAFSS survey at Cambell, Hqs USAF was initiating a survey for the most likely site of intercept of ELINT/RADINT signals (D)(1)

This USAF survey was codenamed "WILD

For the purposes of the SAIT CEDAR operation and the simulataneous WILD WAVES testing at Gambell, the operations were combined. A preliminary survey of the site was accomplished by two (2) officers and a technical engineer in late May 1955. The Alaskan Air Command agreed to furnish a radar set, personnel to install and maintain this set, and radar operational training for intercept operators of the 6981st RGM who were to participate in this testing.

Eight (8) 6981st RGM airmen were sent TDY to Fire Island to acquire radar training in late May 1955. Hqs USAFSS made arrangements to airlift VHF (COMINT) intercept equipment, as well as ELINT equipment, to Elmendorf AFB. An officer and five (5) airmen

from the N. E. Cape operations arrived to accomplish the ELINF effort, and on 29 June 1955, all equipment and most personnel departed Anchorage (Elmendorf) aboard an IST. The remaining personnel and equipment departed by air on 1 July.

WILD WAVES testing was completed at Gambell in early July and the test team continued on to other sites.

Integration of ELINT/RADINT/COMINT efforts was accomplished by the use of a field phone link between the three operations (b)(1)

VHF intercept efforts reflected positive results. for the first time (0)(1)

At the completion of the SALT CEDAR survey on 15 September, all equipment was dismantled and packed with the exception of one (1) HF/VHF radiotelephone position. This position was moved from the site operations area to the Army Security Agency (ASA) detachment operations. The retention of this position was accomplished at the request of ASA, and an agreement was made between ASAAL and the 6981st RSM to maintain the operation. It was to be supported by ASA as long as USAFSS personnel could be available to man it.

WHF intercept on this position continued at a fair level until November 1955. At that time, a considerable decrease in activity was noted but was attributed to adverse weather conditions (b)(1)

Manning on this position was maintained, whenever possible, by volunteer operators from the N. E. Cape COMINT facility. The sole criteria was sixty (60) days experience at N. E. Cape in voice intercept operations. In the absence of volunteers, personnel were selected on an involuntary basis. The duty was performed on a TDY basis.

As a result of the SAIT CEDAR survey, plans were formulated to establish a Gambell operations as Detachment #5, 6981st RSM. Operations of this detached unit were scheduled to commence on 1 October 1956.

### **CHAPTER 3 - 1956**

It became apparent that the establishment of Detachment #5 at Sambell could not feasibly be accomplished during 1956, and plans were made to slip the date of operation to fiscal year 1958.

The Commander, 6981st RGM, then recommended that Detachment #1 (N. E. Cape) and the proposed Detachment #5 be collocated at Gambell. DIRNSA subsequently decided that the intercept available at Gambell did not warrant both an ASA and a USAFSS site. Planning with AAC for the establishment of Detachment #5, was stopped, and further plans were made to turn the VHF mission over to ASA at Gambell. USAFSS also approached USAF on the possibility of turning over the proposed ELINT mission at Gambell to ASA, and to stop shipment on an ELINT intercept van enroute to Gambell.

The proposed ELINT mission was slipped, in the master program, to fiscal year 1959, and the VHF operation at Gambell was transferred to ASA. USAFSS personnel departed this site during the summer of 1956.

### CHAPTER 4 - 1960

Following the departure of "Team #4" from Gambell in 1956, no further action was taken regarding this site until early 1960, when an additional survey was considered, and planning initiated.

(b) (1)

This survey was originally codenamed "CRE CAR", but due to an early compromise, the codename was changed to "ROAD BED". In conjunction with this survey project, an Airborne Communications Reconnaissance Platform (ACRP) intercept effort was to be accomplished in search of the same signals as the ground effort. The codename assigned to this effort was "ORANGE PIN".

The ground survey was intended to compare intercept from Gambell, at both shore and shipboard installations, with intercept from a follow-up survey at the hilltop of N. E. Cape.

(b) (1)

The Gambell portion of this survey commenced 7 July 1960, and tests were accomplished from aboard the LST, on shore at Gambell, and atop the bluff at that site.

(b) (1)

Intercept on HF frequencies at the Gambell sites was generally of good quality with better hearability when compared to intercept from operational sites.

The volume of non-Morse (radioprinter) intercept at the Gambell site was slightly lower than that later accomplished at the N. E. Cape hilltop site, but still showed a favorable

comparison. The greater number of non-Morse intercepts at N. E. Cape Hilltop could be attributed to the decreased emphasis during the latter test on VHF/UHF frequencies.

Results of the ORANGE PIN ACRP flights

were also negative.

Flights were conducted between 22 and 31 July in conjunction with the Gambell survey. Recordings of non-Morse activity resulting from these flights indicated no unique transmissions. A portion of these recordings was analyzed locally. All recordings were then forwarded to DIRNSA for additional and final analysis.



The interference experienced at N. E. Cape hilltop operations tended to negate this site, and to point more favorably to Gambell for possible future intercept operations.

#### SECTION VIII - ATTU

During only one period, 4 May through 16 June 1954, did the discussion of Attu Island as an intercept location reach the action stage.

This survey was the result of dissatisfaction with the Adak Island operations site, and took place in the search of a more adequate site for both intercept operations and logistic support.

The intent was to find a site from which intercept of communications could be obtained with an adequate degree of success.

The survey operation was finally located in an area north of the Peace River. Considerable difficulty was encountered in choosing an adequate location due to the inability to travel over the difficult terrain, and the lack of roads. Equipment included an HO-17 hut mounted on a 2½ ton truck. Quarters and mess facilities were provided by the Navy Security Detachment at Attu.

The actual test was conducted between 14 May and 12 June 1954, and intercept compared favorably with that obtained at the Adak installation. Tactical and strategic voice (HF radiotelephone) traffic was considerably better in both quantity and quality. A good portion of the HF radiotelephone traffic was unique to previous intercept, and activity was interceptable during the complete twenty-four (24) hour day. This compared to much shorter time periods for intercept at Adak. Ground stations (HF radiotelephone) were intercepted that had never been intercepted at Adak with any success.

Non-Morse traffic was available in considerable quantity and quality. All desired targets were successfully heard, (D)(1)

WHF intercept was negligible.

It was determined that while Attu provided a good strategic location for intercept operations, there was little else to offer. Buildings were scarce and in poor condition. Climatic conditions were indicative of a considerable detriment to economical operations. Contrary to this determination, it was recommended that this site be given immediate attention as an intercept location. This decision was based on the desire for more adequate coverage of the (D(1))

An immediate decision on the establishment of an operation at this site was delayed while cost estimates of construction and maintenance could be accomplished.

Plans were formulated, during the spring of 1955, for a permanent detachment at Attu. Cost estimates of proposed construction at both Shemya and Attu were completed by AAC in January 1956. As a result of these estimates and subsequent discussions, recommendations were forwarded by AAC, to USAF, that Shemya be utilized in lieu of Attu as a site for intercept of (D)(1)

#### SECTION IX - KOTZEBUE

Due to the considerable problems encountered at the N. E. Cape installation during the winter of 1953/1954, Kotzebue, Alaska, gained prominence as a possible relocation site for the N. E. Cape operations.

A survey was performed at this site during the period of 19 July through 31 August 1954. This survey was performed to ascertain the capability of this site in intercepting the assigned mission of Flight B, N. E. Cape.

The availability of facilities and logistic support, as well as adequate communications, at the Kotzebue location were the primary considerations. The original plan was for a survey at Tin City; however, Kotzebue was the final choice.

The test consisted of one (1) HF radiotelephone position, one (1) HF manual Morse position, and one (1) HF/IF/VLF manual Morse position. Intercept was conducted in the Operations building of a former radar site at that location.

Results indicated that manual Morse intercept was on a par, both in quantity and quality, with that at N. E. Cape. However, intercept of voice communications was comparatively poorer than that at N. E. Cape.

The general summary of this effort was that action to relocate the N. E. Cape operations should be held in abeyance pending the possible movement of the radiotelephone effort from N. E. Cape to Gambell. If the radiotelephone position move materialized, then Kotzebue could be established as an operations to absorb the manual and automatic Morse efforts at N. E. Cape.

The accessibility of Kotzebue in comparison with N. E. Cape plus increased logistic support were emphasized as distinct advantages.

#### SECTION X - PT. BARROW

#### CHAPTER 1 - 1954

A site survey was initiated at Pt. Barrow, Alaska, in September 1954. This survey was originally planned for 130 days and was scheduled to end on 10 January 1955.

The purpose of the survey was to determine the suitability of this site for a permanent intercept facility. Considerations prompting this survey were similar to those which prompted previous surveys at Gambell, Attu, and Kotzebue, during 1954.

The initial survey at Barrow was conducted with one (1) LF manual Morse position, one (1) HF manual Morse position, one (1) LF/HF automatic Morse position, and one (1) HF radiotelephone position.

Intercept operations were located in a portable van approximately one (1) mile south of the main camp area. One (1) officer and sixteen (16) airmen constituted the original survey contingent.

Logistic support for this operation was obtained from the Office of Naval Research, which at that time was supporting the Arctic Research Laboratory operation at Barrow, under the jurisdiction of the University of Alaska.



- (5) Large quantities of heretofore unrecovered activity were intercepted. This indicated the availability of considerable unique intercept and a sizeable development potential for this site.
- (6) Other known types of activity were intercepted with results comparative to or better than those achieved at other Alaskan theater sites.

As a result of the excellent results obtained during this initial period, it was recommended that the survey be extended for an additional six (6) months (from 11 January 1955 to 10 July 1955). It was further recommended that an interim permanent intercept effort be established to consist of five (5) manual Morse positions, one (1) RDF position, and two (2) automatic Morse positions, with ultimate permanent construction to be accomplished in fiscal year 1957. This recommendation was approved, and discussion was then begun on the prospect of establishing permanent operations at Barrow.

#### CHAPTER 2 - 1955

Logistic support responsibilities of the Barrow installation changed to the Western Electric Corporation (contractors for DEW Line radar installations) on 1 January 1955. One beneficial aspect of the new management was the immediate drop of over 50% in support costs. Barrow communications improved considerably with installation of an AACS unit at that site. As a result, a teletype circuit was installed between the camp and the AACS transmitter in the village. AACS agreed to transmit up to 10,000 groups per day for our Barrow operations as soon as crypto account procedures could be established.

The operation at Barrow continued to produce on an extremely successful basis. The operation, which had previously been extended to 10 July 1955, was further extended to 1 September 1955 to insure a full year of operation. Further permission was requested of Hqs USAFSS to remain at Barrow after 1 September 1955, on a semi-permanent basis, with a contingent of two (2) officers and sixty (60) airmen.

Plans continued, and the designation - Detachment #3 was assigned the Barrow operation which now consisted of six (6) positions. (This designation was later transferred to the Shemya unit and Barrow became Detachment #4.) NSA was considering establishing Barrow as a permanent site. Target date for permanent operations was tentatively set for late 1955.

During the summer of 1955, DIRNSA requested that Pt. Barrow continue as a survey operation for an additional year (1 September 1955 to 1 September 1956). In return, the Commander, 6981st RGM, recommended that either permanent status be granted, or close down the operation entirely. DIRNSA indicated that analysis of the first year's traffic (1 September 1954 to 1 September 1955) would be accomplished, and a decision made subsequent to such completion.

The Commanding General, AAC (General Acheson), voiced strong objections to the establishment of a permanent USAFSS site at Barrow, even though a permanent DEW line site was under construction at that location. AAC questioned the justification of such an operation insofar as end products were concerned.

DIRNSA refused further expansion of the Barrow effort until evaluation of the first year's intercept had been completed. Target date for establishment of permanent operations was slipped to 1 July 1956. Hqs USAFSS provided four (4) vans for this tentatively permanent operation.

NSA completed the evaluation of the first year's traffic on 22 November 1955. As a result, it was recommended that a permanent site be established as soon as practical with an increase of six (6) COMINT positions over those already in use. Hq USAFSS stated that they had requested USAF approval for a permanent ten (10) position intercept detachment to be effected on 1 July 1956. Position alignment would consist of two (2) VHF/UHF radiotelephone, six (6) manual Morse, one (1) automatic Morse, and one (1) RDF.

In accordance with previous estimates by AAC, the 6981st RGM requested 30,000 dollars in additional funds to permit permanent installation of vans on the tundra adjacent to the Pt. Barrow site.

A VHF test was scheduled to begin at Barrow by the end of November and continue for a sixty (60) day period. This test was delayed until 1956 pending receipt of required equipment.

On 20 December 1955, the 6981st RGM notified USAFSS that AAC had been directed by the Joint Chiefs of Staff to support a permanent unit at Barrow effective 1 July 1956, and AAC had requested additional information for planning and programming.

# CHAPTER 3 - 1956

On 13 January, USAFSS notified the 6981st RGM that plans and records on hand at Hq USAF indicated sufficient information had been provided AAC to allow programming and establishment of support for the Barrow unit as a permanent installation beyond 1 July 1956. (It became obvious, at this point, that special attention was being given the progress of this operation, probably due to the stated objections voiced by the CG, AAC.)

AAC informed USAF, on 18 January 1956, that they were preparing a revised financial plan in order to obtain sufficient funds to establish and initially support the permanent detachment to be activated on 1 July 1956.

Because of the extended activities of the Western Electric Company at Barrow, the phase out of construction was extended from May 1956 to 30 October 1956. AAC stated that activation of Detachment #4 at Barrow would not be possible on 1 July 1956, and that the date of 30 October for completion of construction was highly tentative.

AAC further stated that they were checking with the DEW Line Project Officer to determine accurate phase out dates, but new construction was impossible because Mona Lisa resupply was not programmed for Pt. Barrow in 1956. (This latter statement does not entirely coincide with what AAC had previously told Hq USAF.)

On 8 March, USAFSS, in a directive from DCS/Materiel, indicated that establishment of the Barrow installation was to take place in two (2) phases. The first phase was to consist of installation of four (4) positions and related equipment. The second phase was to consist of six (6) positions and related equipment. It became evident that this directive had emanated from the DCS/Materiel without prior coordination with DCS/Plans; therefore, that office was notified that AAC intended to slip the Barrow establishment to a later date.

On 23 June, USAFSS indicated that USAF had authorized spaces for the Barrow operation effective 1 August 1956, and Barrow would have to remain on survey status until that date.

It was at this stage of planning (26 June 1956) that it became apparent that AAC had failed to make any arrangements what-soever for support of the Barrow operations, subsequent to 30 June 1956.

This fact came to light when the Commander, 6981st RGM was performing a routine check with AAC on the status of Barrow preparation.

AAC stated that the recent receipt of USAF Manual 172-1 had resulted in an interpretation which relieved them of responsibility for funding for support of tangible or feasible areas required by tenant units. AAC had further determined that this included all or most of the services which would be required by Detachment #3, Shemya, and Detachment #4, Barrow. As a result, AAC had cancelled all programming for funding of these operations.

When queried as to why the 6981st RGM had not been notified, AAC stated that they assumed Hq USAFSS was responsible for such notification.

Hq USAFSS was notified of the problem, and cost estimates of Det #3 and Det #4 operations for fiscal year 1957 were included. A telecon was held with USAFSS and a message subsequently forwarded to AAC by USAFSS. This message indicated that USAFSS was aware of the requirement for their funding for modifications and minor construction; however, they did not agree that AAC was relieved, under 172-1, of normal logistic support as previously tasked by USAF.

AAC took interim steps to provide support for Barrow through 30 September 1956.

Barrow became Detachment #4 on 1 July 1956. Personnel were supplied from 6981st RGM resources during the first month of operations until USAF manning was effected.

Preliminary construction which had been allocated, by AAC to the 11th AD to be completed by 1 July, had not yet been started. On 12 July 1956, the 11th AD notified AAC that the construction was beyond their capability, and that a contract would have to be let. It was further indicated in this notification that the cost estimate would jump from the previously estimated 13,000 dollars to a figure approximating 60,000 dollars with the letting of this contract to a civilian concern. AAC recommended that the 6981st RGM obtain the necessary funds from USAFSS.

The Commander, 6981st RGM, notified AAC on 14 August that relocation of the Barrow operations must be accomplished prior to operation of the DEW Line Radar because of expected interference. It was pointed out that construction should be completed by 1 October 1956. Concern was expressed that no progress had been made on the project to date.

The Commander AAC informed USAFSS on 17 August that 60,000 dollars was required and requested funds in that amount from USAFSS. The Director of Intelligence, obviously concerned over the problems hindering the establishment of Detachment #4, expressed his views that if no action was completed by 1 December 1956, intercept would be lost at Barrow due to interference from the DEW Line Site going into operation on that date.

On 14 September, USAFSS notified AAC that 60,000 dollars had been alloted for the necessary construction of pads for the vans.

In October, AAC initiated negotiation with the prime contractor at Barrow for continued support of Detachment #4 through 31 December 1956.

On 29 November, the 6981st RGM forwarded a TResume of Point Barrow Planning" to AAC. It was pointed out that, despite the availability of construction funds, nothing had been accomplished to prepare the proposed site for operations. AAC did provide two (2) 75 kilowatt generators, and 6981st RGM personnel proceeded to Barrow to move the five (5) wans to the new location, even though the pads had not been constructed. This procedure insured continued operations; however, it placed the operation in a highly precarious position. If the wans were left on the tundra after the thaw, they would probably sink into the muck.

# **CHAPTER 4 - 1957**

On 12 February 1957, the 6981st RGM received approval for installation of three (3) prefabricated huts at Barrow which would allow the transfer of operations from the vans then in use. The vans on the tundra had been temporarily prevented from sinking by constant jacking and blocking. The prime contractor at Barrow was contacted directly by the 6981st RGM to set up the pre-fab huts. However, they replied that they were in the employment of the Air Materiel Command, and that employment of the firm would have to be coordinated with that command. The AMC was contacted, and the available funds (\$60,000) were turned over to it for the initial construction of Detachment #4. Apparently AAC had been completely eliminated from the planning picture, except for normal logistics, and AMC was to handle any construction.

It was at this stage that economy measures began to be felt. Discussion was initiated toward the possible integration of Detachment #1 and Detachment #4 at the Det #1 (N. E. Cape) site. As a result, plans were established, and the 60,000 dollars for Barrow construction was withdrawn from AMC.

To continue operations at Detachment #4, and at the same time economize, the Commander, Det #4, requested permission to move operations to a quoiset in the main camp. This move was permitted, primarily to defray additional transportation costs and upkeep of the vans. However, even this move was delayed because of lack of necessary equipment.

The "MODEL HOME" survey was started on 3 July 1957, to find a consolidation site for intercept operations detached from the 6981st RGM. This was the first step in discontinuing the Barrow effort. Preliminary surveys were accomplished at Cape Lisburne, Tin City, and Nome. However, actual surveys never took place. It was decided that a hearability test would be performed at N. E. Cape instead, to determine if the Pt. Barrow intercept mission could be accomplished at that site.

The hearability test at N. E. Cape was performed beginning 15 October 1957, and the results were sufficiently satisfactory to formulate plans for the movement of Detachment #4 operations to N. E. Cape in early 1958.

# **CHAPTER 5 - 1958**

The initial phase of the move from Pt. Barrow was accomplished on 26 February 1958.

The final deactivation of Pt. Barrow took place on 19 May 1958.

The trend toward economy of operations, the objections of AAC, and the lack of support resulting therefrom, had finally forced the discontinuation of one of the most lucrative sites of intercept available in the Alaskan Theater.

### SECTION XI - CAPE LISBURNE

# CHAPTER 1 - 1957

Cape Lisburne first came under consideration as a possible intercept site during the summer of 1957, in conjunction with Project "MODEL HOME". This project was established to find a consolidation site for integration of N. E. Cape and Pt. Barrow intercept efforts. The project was primarily the result of economy measures which had considerably curtailed military spending at that time.

During the period of MODEL HOME research, only a pre-site survey was conducted at Cape Lisburne, as well as at the other sites concerned. The findings at Lisburne were not particularly inviting. The preliminary survey revealed only one site with sufficient area and grade to accommodate an antenna field. This area was to the east of the base camp, along the Arctic Ocean. The average vertical angle to the tops of the surrounding mountains, from a point near the shore, was seven degrees which was considered excessive for good intercept results. Noise level and signal strength tests were made with noise level at a minimum but signal strength good only in the HF frequency range. The existence of mountains completely blocking azimuths south of 270 degrees posed a deterrent to optimum operations.

### CHAPTER 2 - 1961

The search for an intercept site to determine the availability of electromagnetic signals (D)(1)

(D)(1) again brought Cape Lisburne into consideration.

A site survey team consisting of one (1) officer, two (2) ELINT operators (one (1) USAFSS and one (1) ASA), one (1) voice intercept operator, one (1) radioprinter intercept operator, one (1) analyst, and one (1) maintenance technician departed Elmendorf AFB for Cape Lisburne on 14 June 1961. All personnel and equipment were airlifted into place aboard one (1) C-123 and one (1) C-124. The equipment consisted of one (1) H-1 van utilized for LF, HF, and VHF Morse, non-Morse radioprinter, and voice intercept, and one Helihut utilized for ELINT intercept. Two (2) ground power units and assorted antennas were utilized.

As indicated, the survey was a joint effort by the 6981st RCM and Army Security Agency Alaska. Testing consisted of broad band spectrum search from 1 kilocycle to 4 kilomegacycles for unique emissions.

A preliminary test was attempted atop the mountain in the vicinity of the radome between 16 June and 18 June, during a period that the radar equipment was shut down. This effort failed however, due to extreme ising conditions and high winds measured at a plus eighty (80) knots. Fortunately, only two (2) antennas had been set up, and damage to equipment was slight.

Equipment was then moved and installed on a bluff overlooking the Chuchki Sea at the base of the mountains and west of the main base. Long wire antennas were strung, and various VHF/UHF antennas were raised.

During the period of actual testing (14 June 1961 through 14 July 1961), negative results were achieved in the search for unique electromagnetic signals. The HF and IF frequency spectrums provided intercept of known targets, of good quality and in many instances, superior to that intercepted at other sites.

Geographical problems were encountered in considerable degree. The latter location left considerable to be desired as it was blocked by the coastal mountain range south of an approximate 265 degree azimuth. The area was, however, the most desirable available in the Cape Lisburne area with the exception of the hilltop, as indicated.

Summary of this effort indicated that while Cape Lisburne does offer lucrative intercept possibilities within the HF

frequency range, intercept would be limited to these targets, with the additional limitation in azimuth of coverage. Hilltop operations could feasibly eliminate many of these problems, but would create logistical problems on an even greater scale plus the severity of the weather. The possibility of obtaining intercept above the HF frequency spectrum from this site must be considered remote.

### SECTION XII - TIN CITY

Considerable interest has been shown in this site throughout USAFSS operations in the Alaskan Theater; however, it is interesting to note that no actual survey has ever taken place at this location.

The initial interest in the Tin City area was indicated in 1954 when USAFSS was looking for a more adequate home for the intercept effort at N. E. Cape. This was immediately following the first year's operation at N. E. Cape, during which time, a multitude of problems in logistics and basic existence had been encountered. For some unknown reason, the intent to survey Tin City was cancelled in favor of a site survey at Kotzebue during 1954.

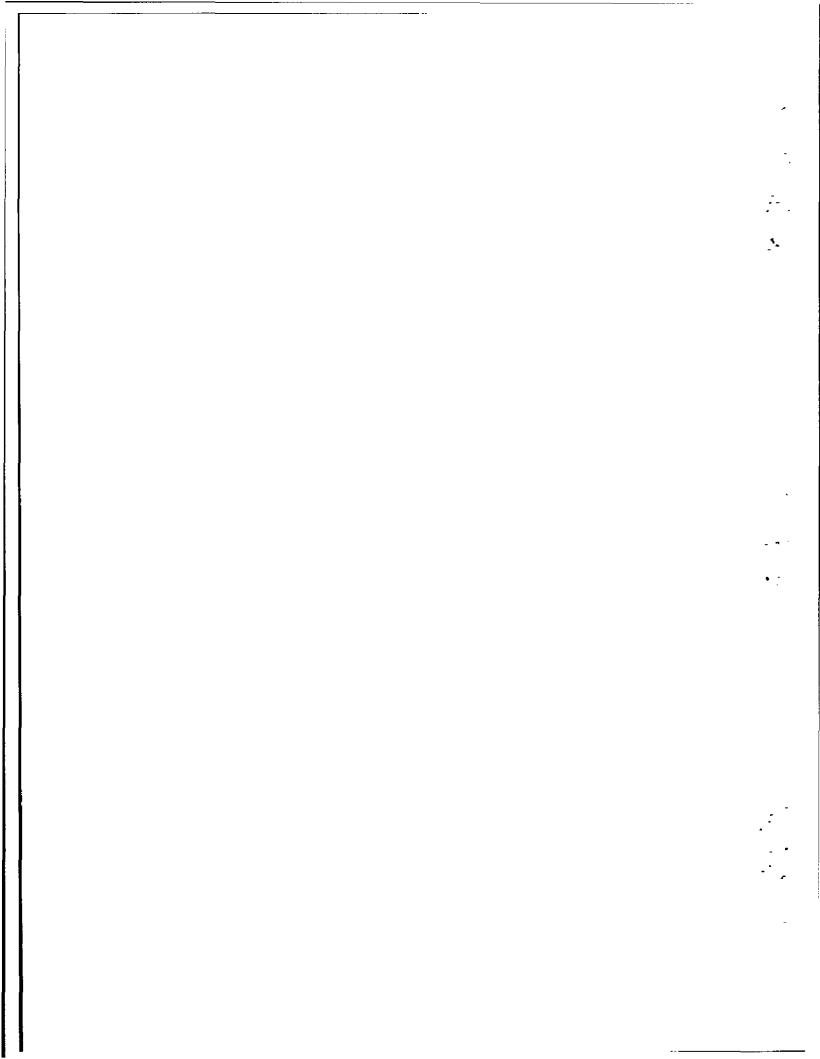
Again during 1957, the Tin City area was considered for site survey. This consideration came in conjunction with the MODEL HOME project. A preliminary survey was conducted to determine the best location at Tin City for the establishment of an intercept effort. Two areas were considered, but one nearer the AC&W site was chosen for the establishment of survey operations. The undesirable feature of this selection was that it was directly east of Tin Mountain (alt. 2300 ft). This mountain blocked nearly a 50 degree azimuth in the most desirable intercept direction.

As a result of the preliminary surveys for the MODEL HOME project, Tin City was chosen as the actual survey site. Further investigation revealed, however, that the site at Tin City chosen for this survey did not contain sufficient firm ground to support an antenna field. At this stage it was decided to replace the MODEL HOME project with a hearability test at N. E. Cape. This test was to determine the capability of N. E. Cape in intercepting the mission assignment of Pt. Barrow. As results from this test were satisfactory, and economy measures were playing a rather large part in selection of a consolidation site, Tin City was once more bypassed without benefit of an actual hearability test, and N. E. Cape became the consolidation site.

Tin City came under consideration once more in 1961. Following the site survey at Cape Lisburne (scheduled for 14 June - 15 July), it was intended to move the survey team to Tin City to accomplish a thirty (30) day test at that site for unique electromagnetic signals. Once again, Tin City was bypassed. This time it was the result of extremely adverse weather conditions which marooned the survey team at Cape Lisburne for a thirty (30) day period after the survey at that site had been completed. The weather conditions at both Cape Lisburne and Tin City were continuously poor during this entire period. Tin City could not receive

military aircraft for a consecutive thirty-six (36) day period. As a result, Tim City remained an unknown quantity.

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### PART II

### U.S. ARMY

### SECTION I - KENAI, WILDWOOD STATION

Although no records are available to support the foundation of Army Security Agency (ASA) Operations, Alaska, in its initial stages, available information does indicate that the operation at Kenai, Wildwood Station was the first permanent ASA installation in this theater. This installation was purportedly initiated during the late 1940's. (All records of ASA participation in the Alaskan Theater SIGINT effort prior to 1960 have been retired to Hq Army Security Agency, Arlington Hall, Virginia.

Wildwood Station, Kenai, had been evacuated by ASA during 1958, as an active intercept operational site; however, in December 1960, a Site Survey was conducted at Wildwood for electromagnetic transmissions in the 500 kilocycle to 1000 megacycle range.

This survey was accomplished between 9 December 1960 and 7 January 1961. Equipment was furnished by DIRNSA through NSAAL, and was installed and transported in a van obtained from the 6981st RGM.

A "Chickenwire" antenna provided excellent reception from 500 kes to 300 mes, with best reception in the 30 to 60 mes range. Results were not as good above or below this 30 to 60 mes range. The use of this rather complex and bulky antenna left a considerable impression on participating personnel, and this survey operation acquired the nickname "Operation Chickenwire".

Due to lack of identification aids and the inexperience of the operators in performing identification of the various intercepted signals, little of the intercept obtained on this survey was identified at the site. Traffic from this test was forwarded to NSAAL for evaluation, and there is no official record of the findings. However, the bundle labels were mixed up, magnetic tapes were put into the wrong envelopes, and most traffic ended up in the scrap.

### SECTION II - GAMBELL

A Site Survey of Gambell, St. Lawrence Island, was conducted between 22 February and 13 April 1951. The purpose of this survey was to acquire a site for intercept of low echelon communications not available from current sources. The survey operation was accomplished to provide a comparison of intercept capability between Nome, Alaska, and Gambell. No record of the ASA Nome survey is available.

The results of this survey indicated that signals emanating from Russia, Europe, Asia, South America, Australia, and parts of Africa, plus Chinese and Korean Communist Air and Ground were monitored with good signal strength.

(b)(1)

Voice intercepts were numerous (probably HF radiotelephone).

It was also determined that Cambell could be adequately supplied by air from Ladd AFB, Fairbanks. Traffic could be transmitted by VHF radioteletype to Nome and thence relayed to Arlington Hall via Anchorage and the present communications net.

None was deemed unfavorable for the purpose of interception of (b)(1)

### SECTION III - SKAGWAY

During the fall of 1953, the Army Security Agency, Alaska (ASAAL) conducted a Site Survey of Skagway, Alaska. This survey consisted of an evaluation of HF radioprinter signals available at that site. The test was performed in a frequency range between 4290 and 10660 kilocycles. (D)(1)

No records are available indicating the results or recommendations made at the completion of this test.

### SECTION IV - SHEMYA

During the period 6 March through 11 April 1957, the Army Security Agency, Alaska, performed a Site Survey of Shemya Island, Aleutian Chain. The mission of this survey was to intercept and record all (b)(1) activity on the VHF band, and in addition, to sample unusual (b)(1) activity on the HF bands (0 to 8 megacycles). Also ELINT and Morse General Search missions were accomplished.

(b) (1)

No KLINT type signals were intercepted above (b)(1) megacycles. Jamming type signals were heard with consistency on the HF band.

Radiotelephone intercepts, accomplished with the assistance of a complimentary survey team from the 6981st RGM, were excellent in the HF range. VHF radiotelephone intercepts were negligible (See PART I, SECTION VI).

Equipment used in this test was partially obtained through the 6981st RGM and was that equipment utilized in the USAFSS SALT CEDAR survey at Gambell. (See PART I, SECTION VII)

# SECTION V - FORT RICHARDSON, ALASKA

A Site Survey of Site Summit (mountain top location in the Anchorage area) was accomplished by the Army Security Agency, Alaska during the period 3 through 17 August 1959.

The mission of this survey was the interception of COMINT/
ELINT activity. The COMINT mission was directed toward the search
for any and all targets known to be associated with the (D)(1)

program. The ELINT mission was directed toward the search
for any and all signals associated with the (D)(1)

program.

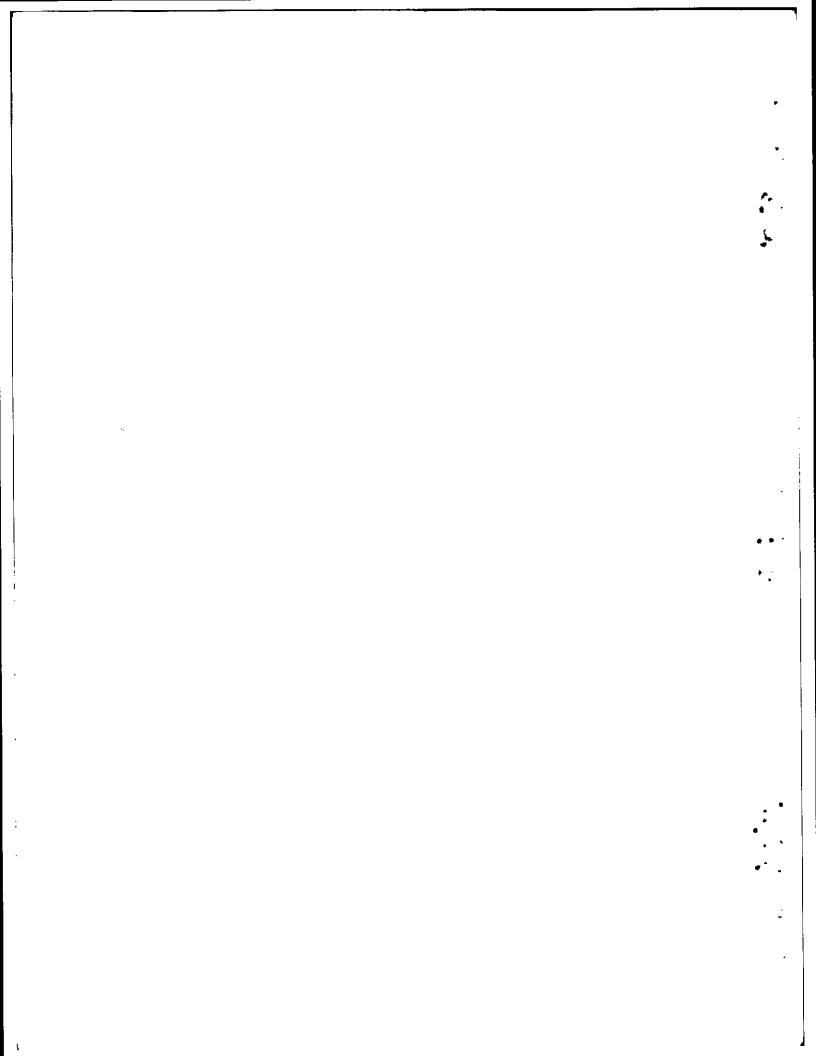
Limited intercept of COMINT targets and no ELINT intercepts were accomplished.

# SECTION VI - CAPE LISBURNE

The Army Security Agency, Alaska, participated in the ELINT portion of a broad band electromagnetic survey in the Cape Lisburne area during the period 14 June through 13 July 1961.

Results of this test were negative. (See PART I, SECTION XI)

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### PART III

### U. S. NAVY

### U. S. HAVY COMMUNICATIONS SUPPLEMENTARY ACTIVITY, CLAM LAGOON, ADAK

In September 1943, a Communications Supplementary activity was established at Clam Lagoon, Adak Island, Aleutian Chain, Alaska, with associated direction finding activity installed at Zeto Point, Adak. This installation probably constituted the initial COMINT effort in the Alaskan Theater. Facilities were housed in quonset buts and wooden buildings during and after World War II.

No additional information is available, at this time, as to the mission, strength, equipment, responsibilities, etc., of this facility during the intervening years until 1948.

As a result of the Public Works Authorization Bill, passed by Congress in 1948, funds for permanent construction to house the Communications Supplementary Activity, Adak, were appropriated in June 1948. In April 1949, permission was granted to proceed with construction of a facility to house the Maval Communications Station at Adak, and by the end of 1949, this construction was well under way. Construction apparently continued into 1952, when it was noted that the final stages of construction were reached in the spring of that year. On 1 May 1952, the personnel attached to the Communications Supplementary Activity were transferred to the Naval Communications Station (Receivers), Adak.

During the subsequent period, the Communications Supplementary Activity became the U.S. Naval Security Group Department, Naval Radio Station (Receivers), Adak, and was assigned a unit designation of USN-13.

No additional information is available regarding the operations at Adak. During the period 1943 - 1961, this activity had not participated in any special or joint exercises other than routine training exercises or defense drills. The position configuration at the Naval Security Group Department, Adak, at the close of 1961, was a total of twenty-nine (29) positions. These positions included; twelve (12) manual Morse, one (1) automatic Morse, three (3) voice, five (5) radioprinter, six (6) Morse General Search, one (1) non-Morse General Search, and one (1) RIINT.

